

NWS Forecast for: MIDDLE TANANA VALLEY-INCLUDING...FAIRBANKS

409 AM ADT TUE APR 8 2008

**TODAY**...MOSTLY CLOUDY. FLURRIES. HIGHS 25 TO 30. LIGHT WINDS. TONIGHT...MOSTLY CLOUDY. SCATTERED SNOW SHOWERS. LOWS 10 TO 15. LIGHT WINDS.

**WEDNESDAY**...MOSTLY CLOUDY. A CHANCE OF SNOW. HIGHS 25 TO 30. LIGHT WINDS. WEDNESDAY NIGHT...MOSTLY CLOUDY WITH A CHANCE OF SNOW. LOWS 15 TO 20. NORTHEAST WINDS TO 10 MPH.

**THURSDAY**...MOSTLY CLOUDY WITH A CHANCE OF SNOW. HIGHS AROUND 30. NORTHEAST WINDS TO 10 MPH. THURSDAY NIGHT...CLOUDY. LOWS NEAR 15.

**FRIDAY**...MOSTLY CLOUDY. HIGHS NEAR 35. .FRIDAY NIGHT...CLOUDY WITH A CHANCE OF SNOW. LOWS NEAR 20.

**SATURDAY**...MOSTLY CLOUDY WITH A CHANCE OF SNOW. HIGHS NEAR 35. SATURDAY NIGHT...MOSTLY CLOUDY WITH A CHANCE OF SNOW. LOWS NEAR 15.

**SUNDAY**...MOSTLY CLOUDY. HIGHS NEAR 35.

76

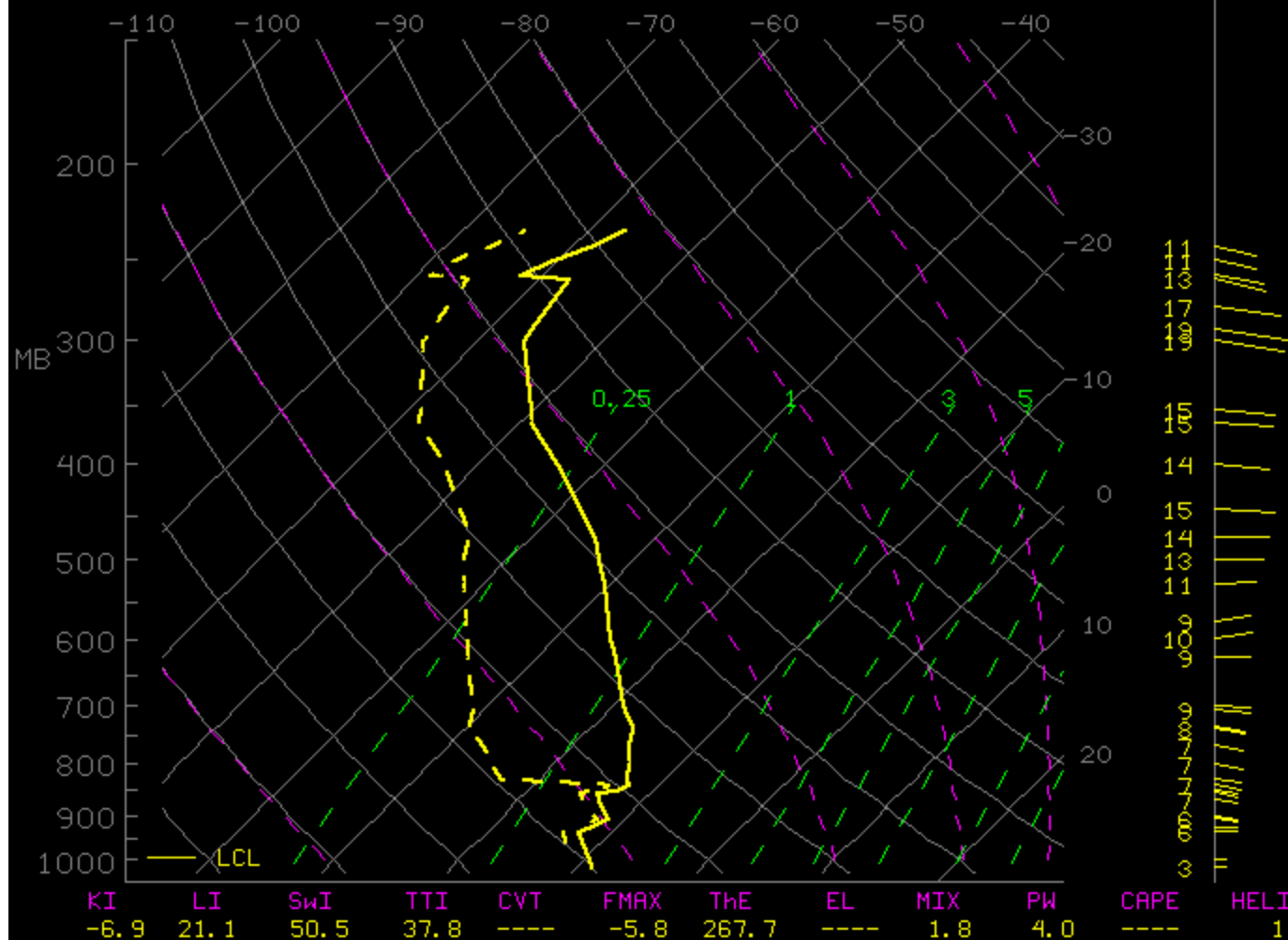
-165

-113

1200 UTC 08 Apr 2008099 PABR 70026 Barrow

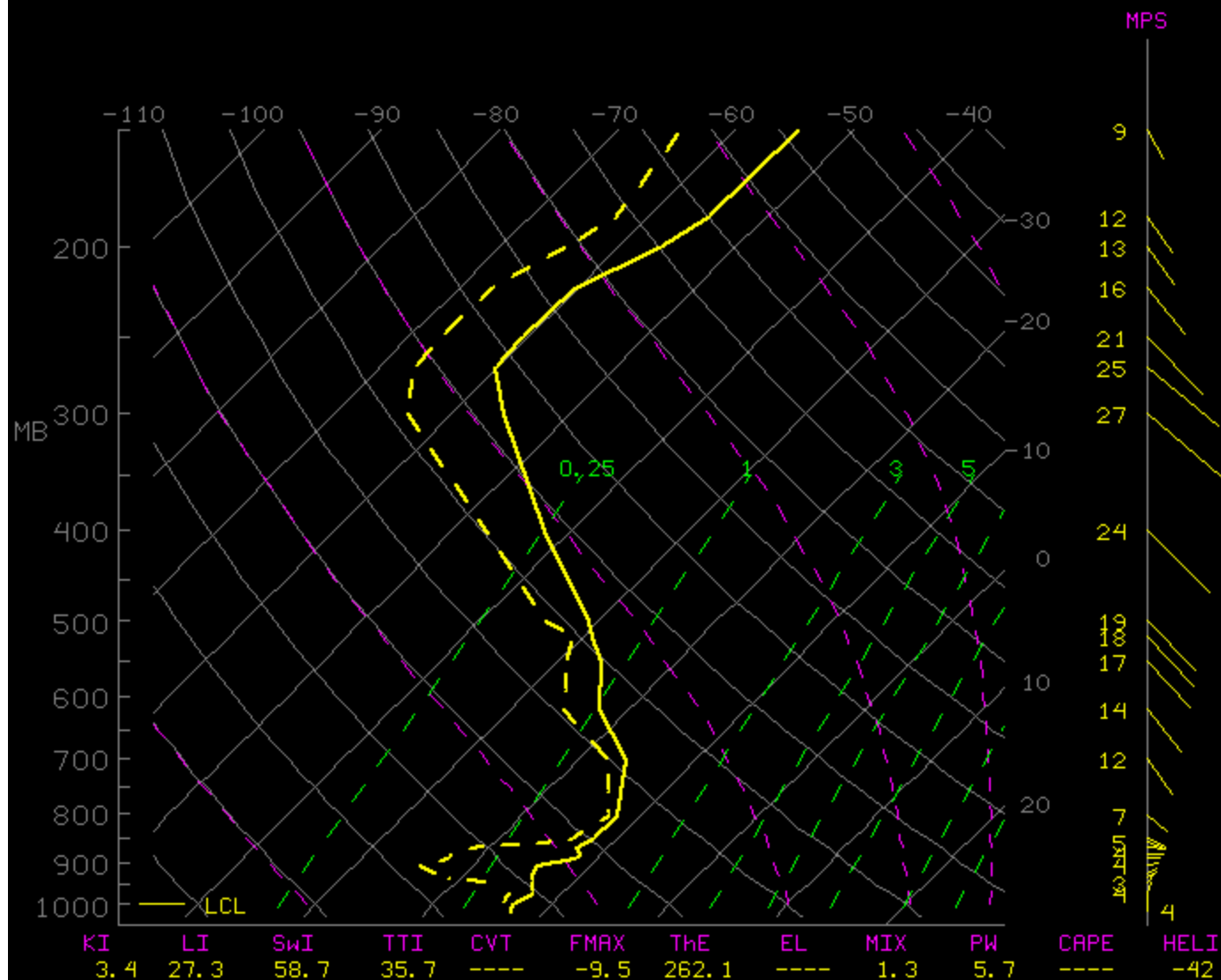
AK US

MPS



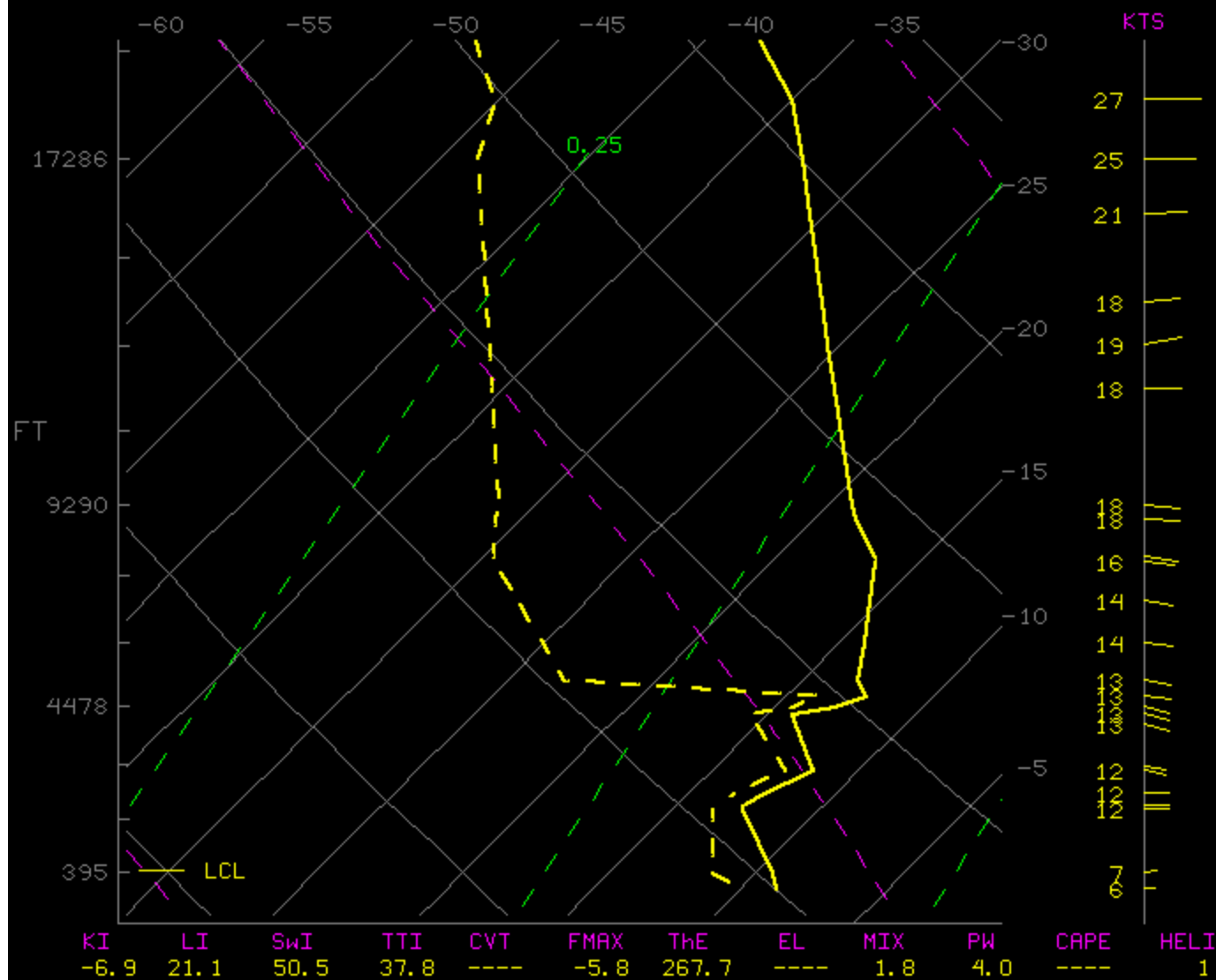
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AK US



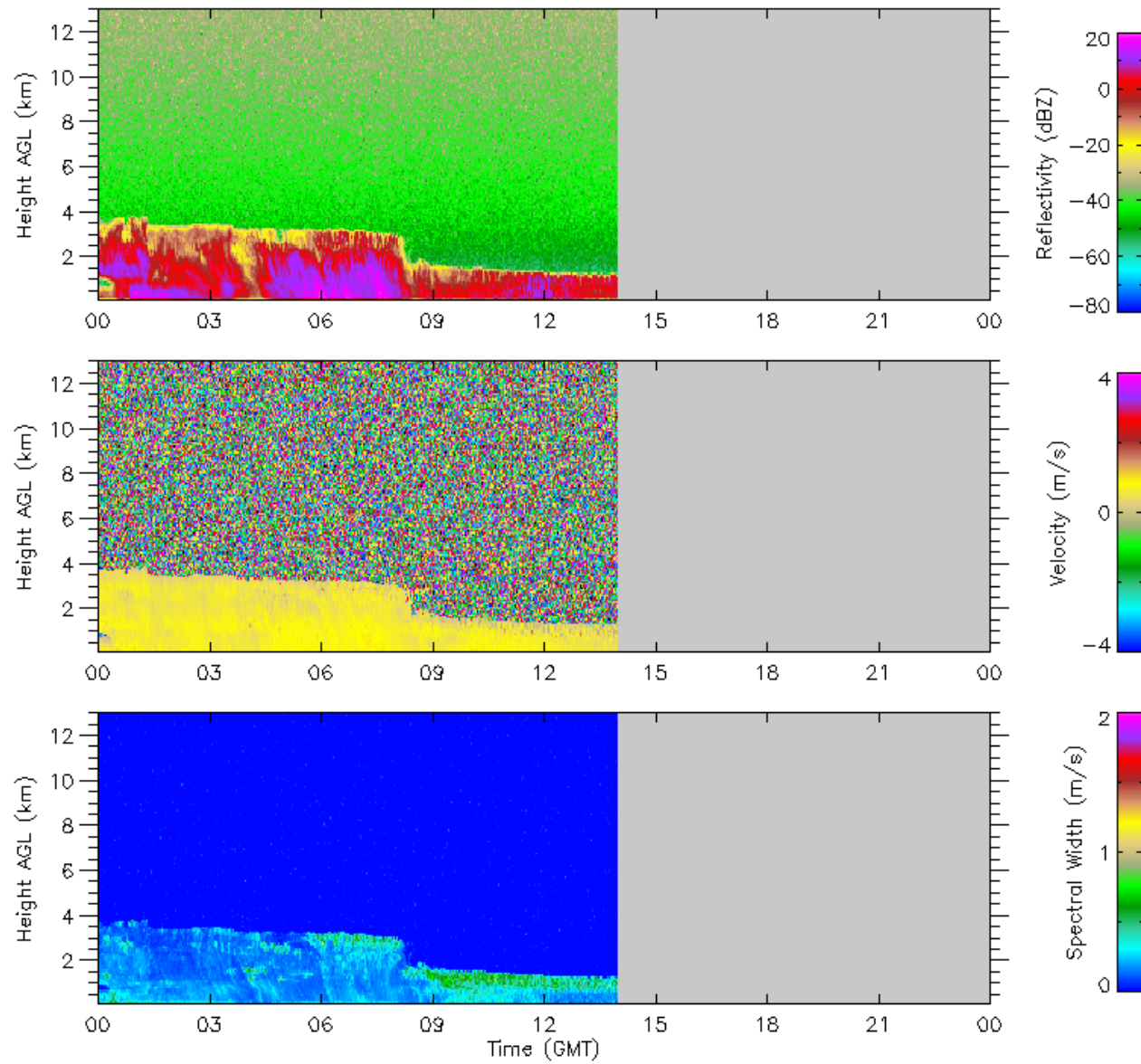
1200 UTC 08 Apr 2008099 PABR 70026 Barrow

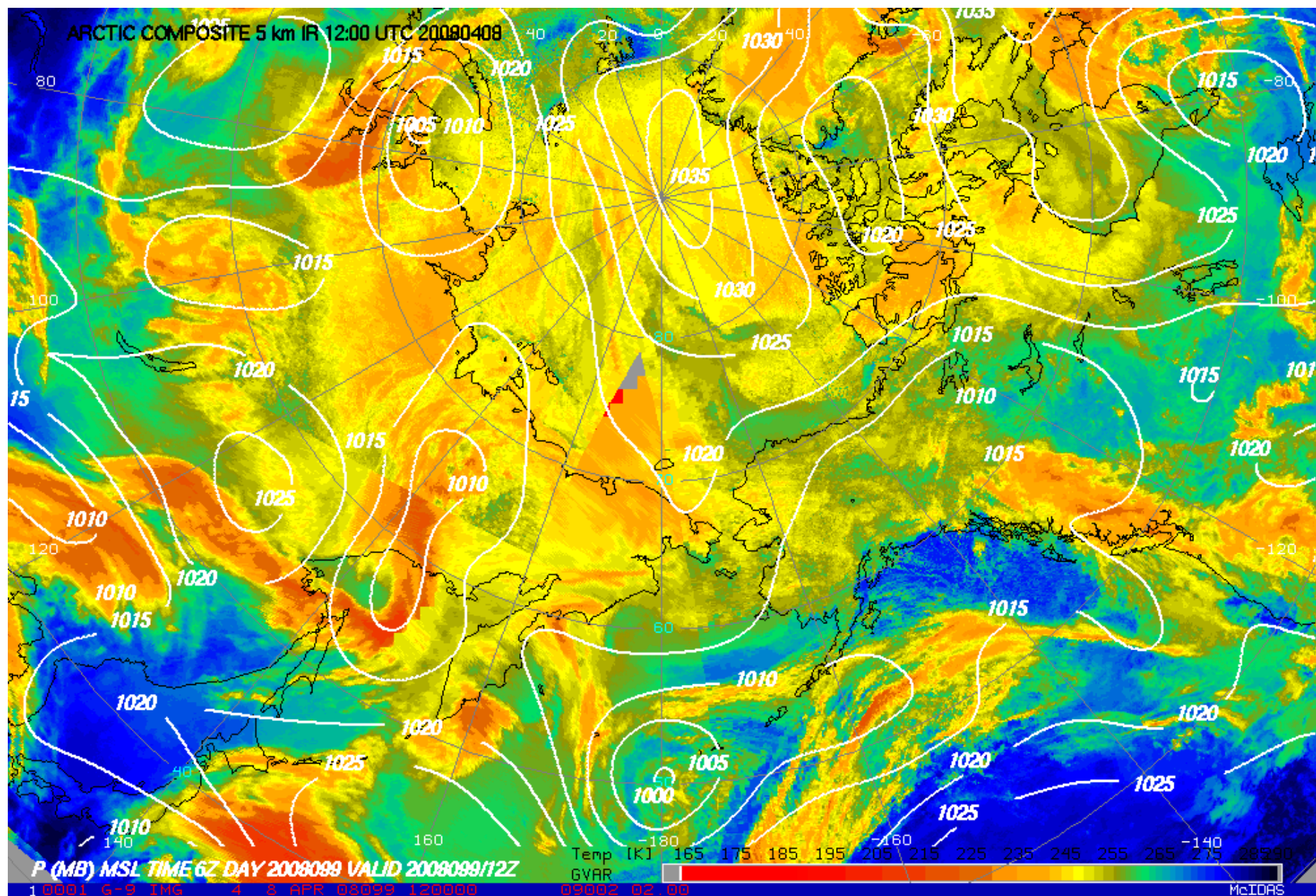
AK US

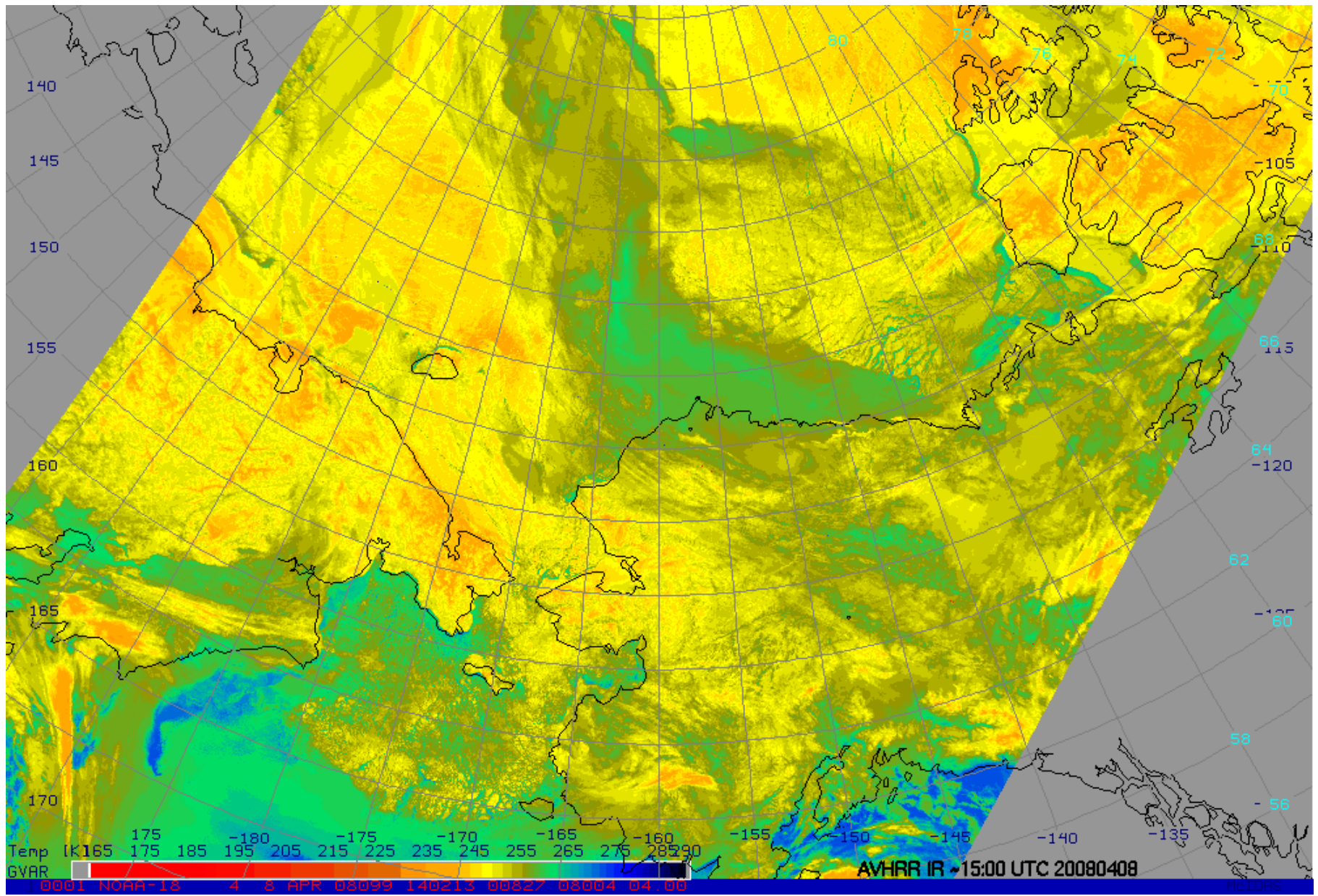


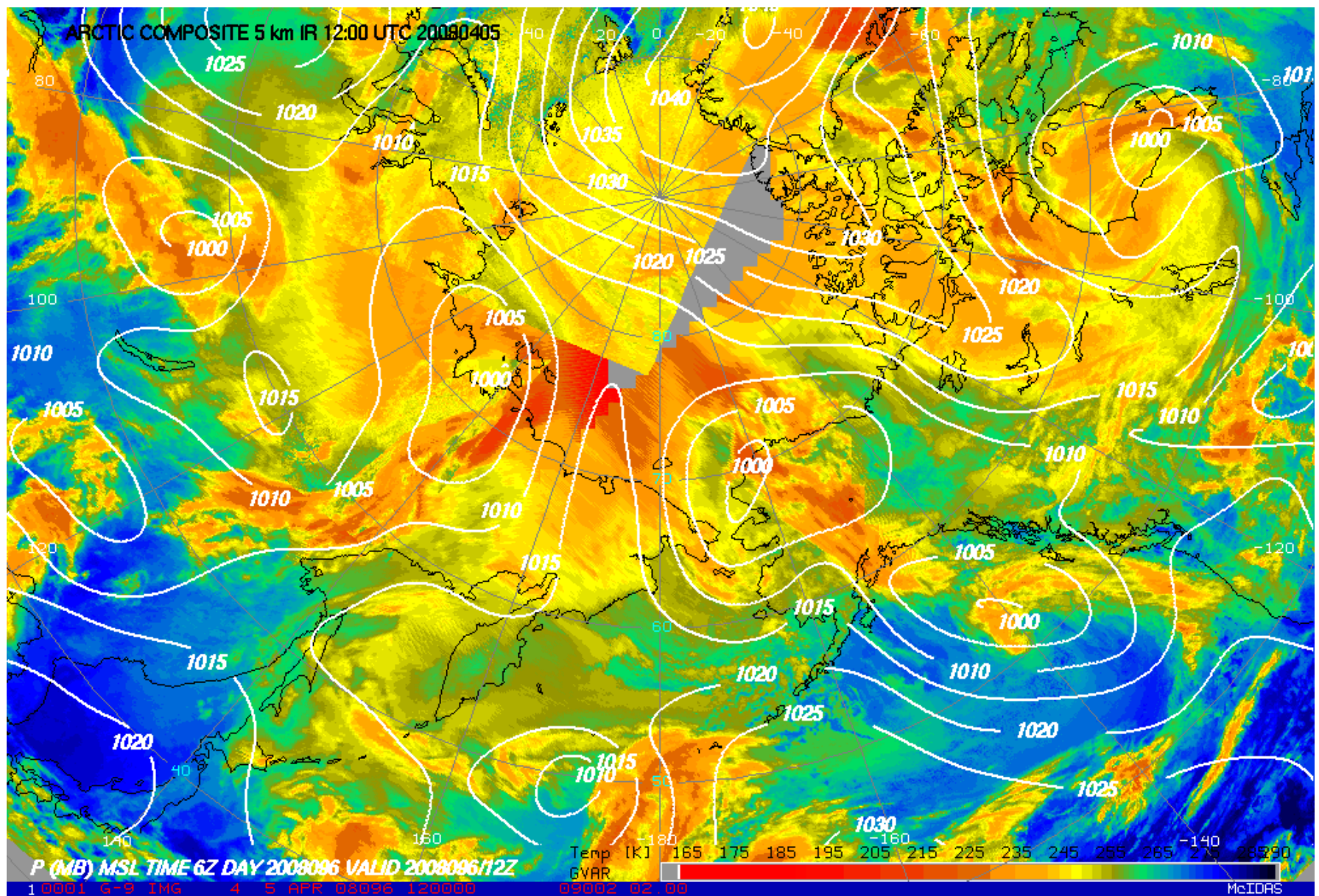
20080408

nsammcrmomC1.b1, General, Mode 3

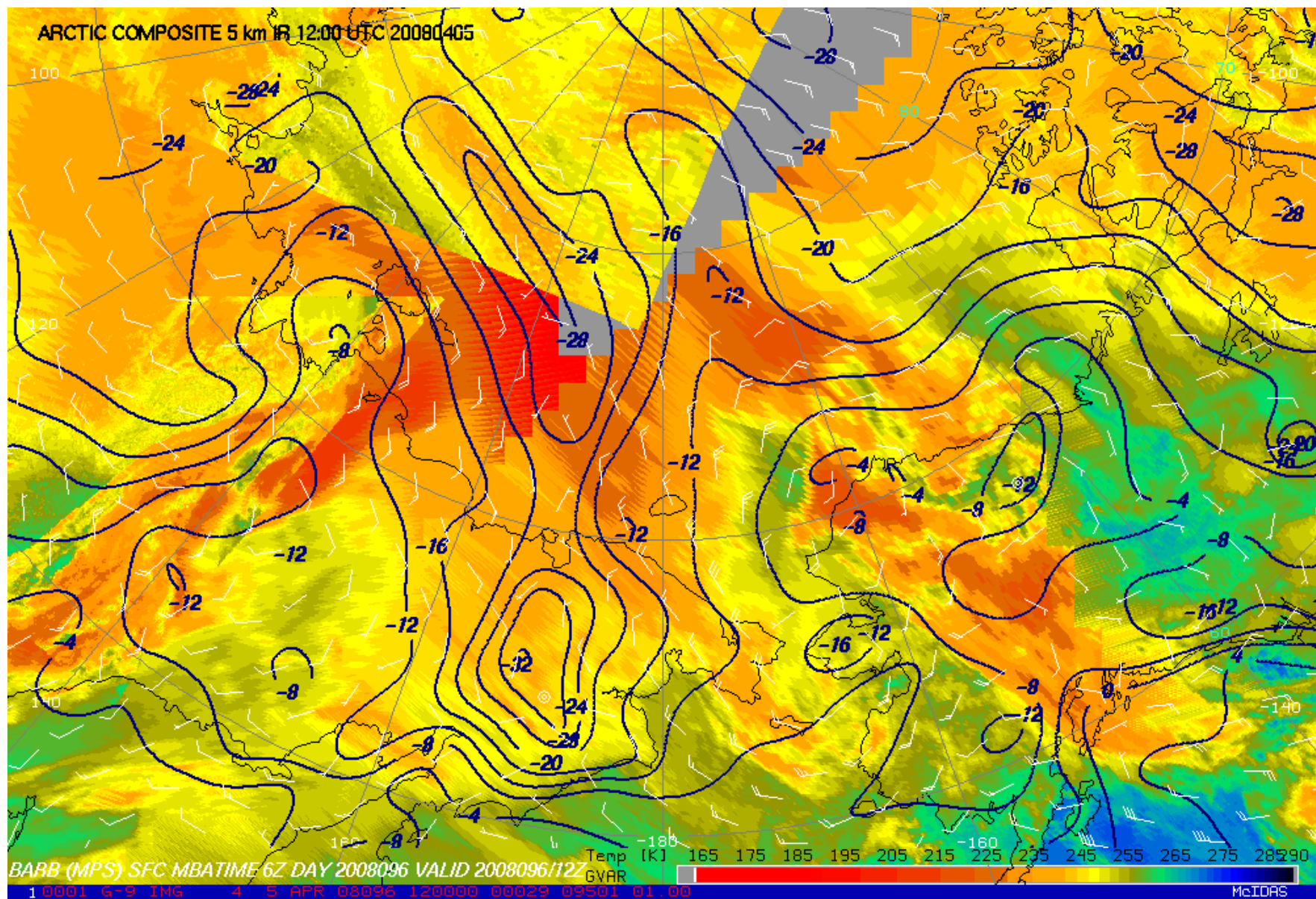


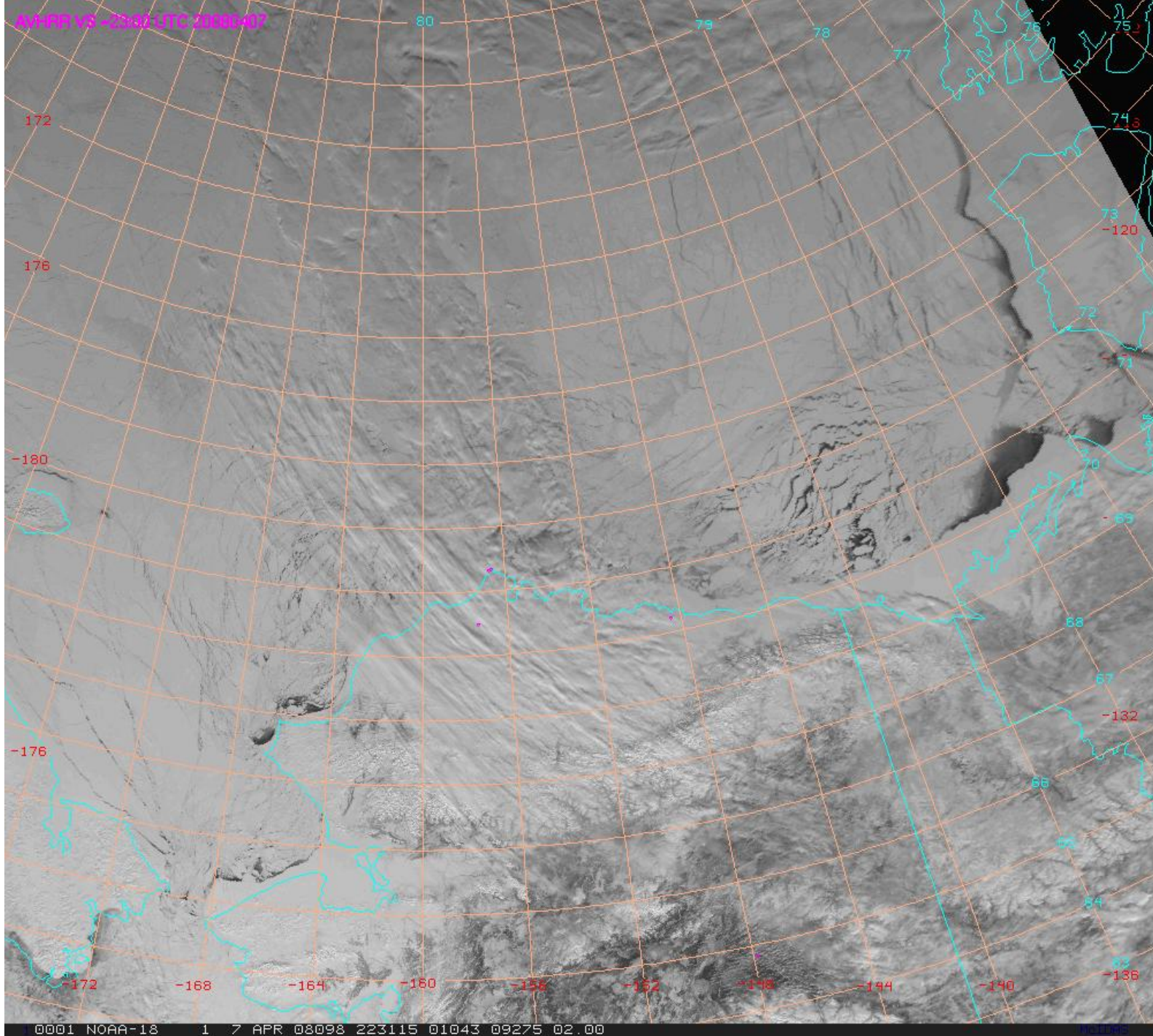






ARCTIC COMPOSITE 5 km IR 12:00 UTC 20080405





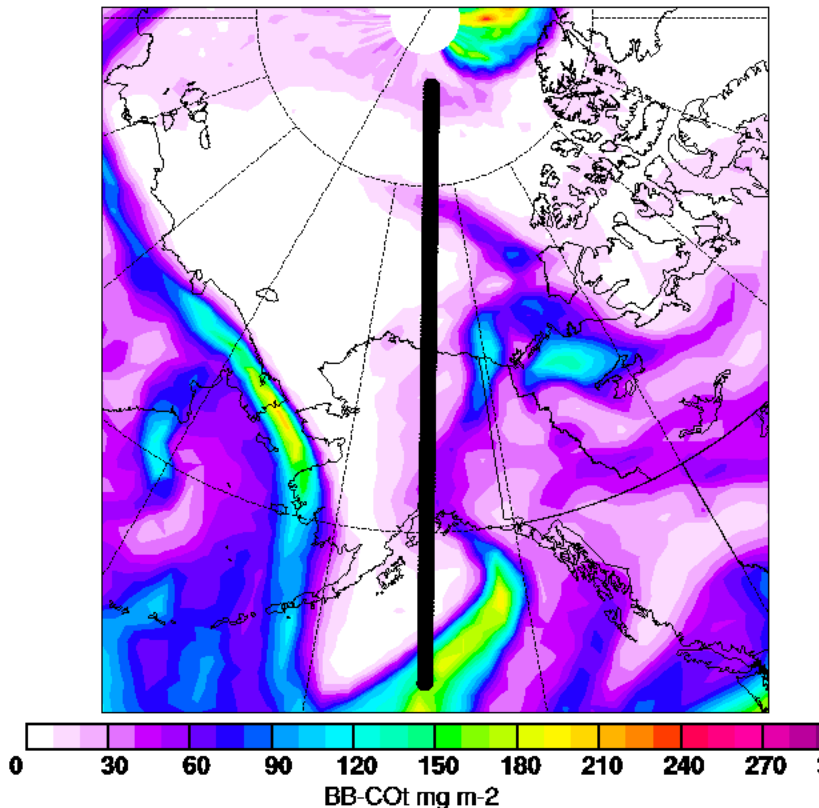
# Friday Biomass Burning

**Total column of species BB-COt for age class 0 - 20.00 DAYS**

Latest analysis time 20080408. 60000 Actual time 20080411.180000

Mean value 0.435E+02 Maximum value 0.360E+03 Minimum value 0.1

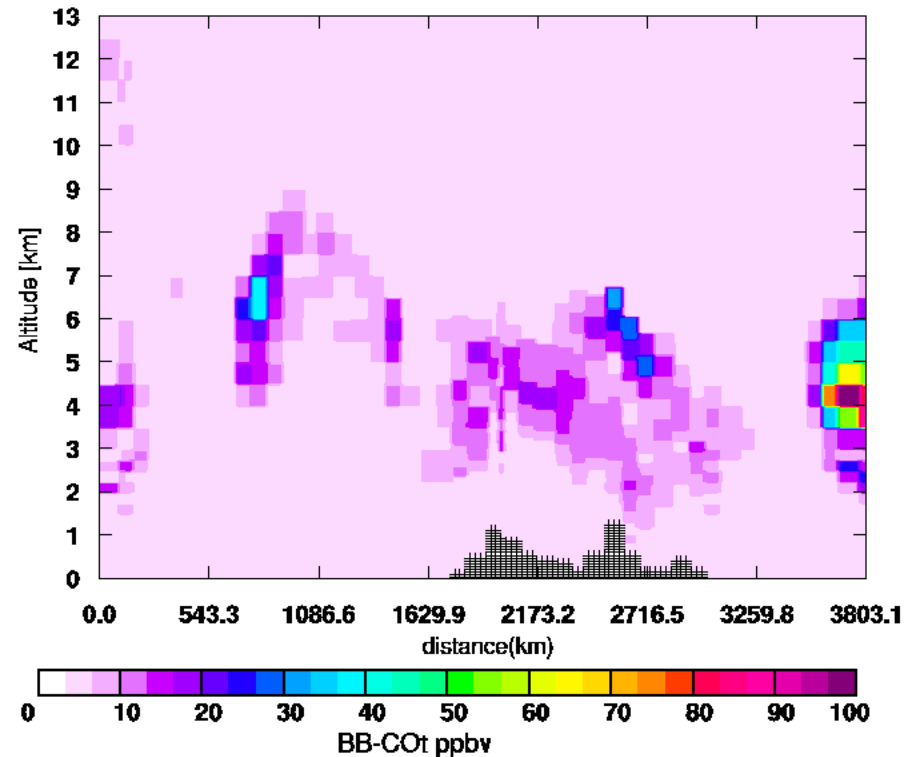
Distance of grid lines 20.0 deg



CROSS SECTION FROM 86 TO 52 LATITUDE AND -144 TO -150 LONGITUDE

BB-COt MIXING RATIO FOR AGE CLASS 0 - 20.00 DAYS

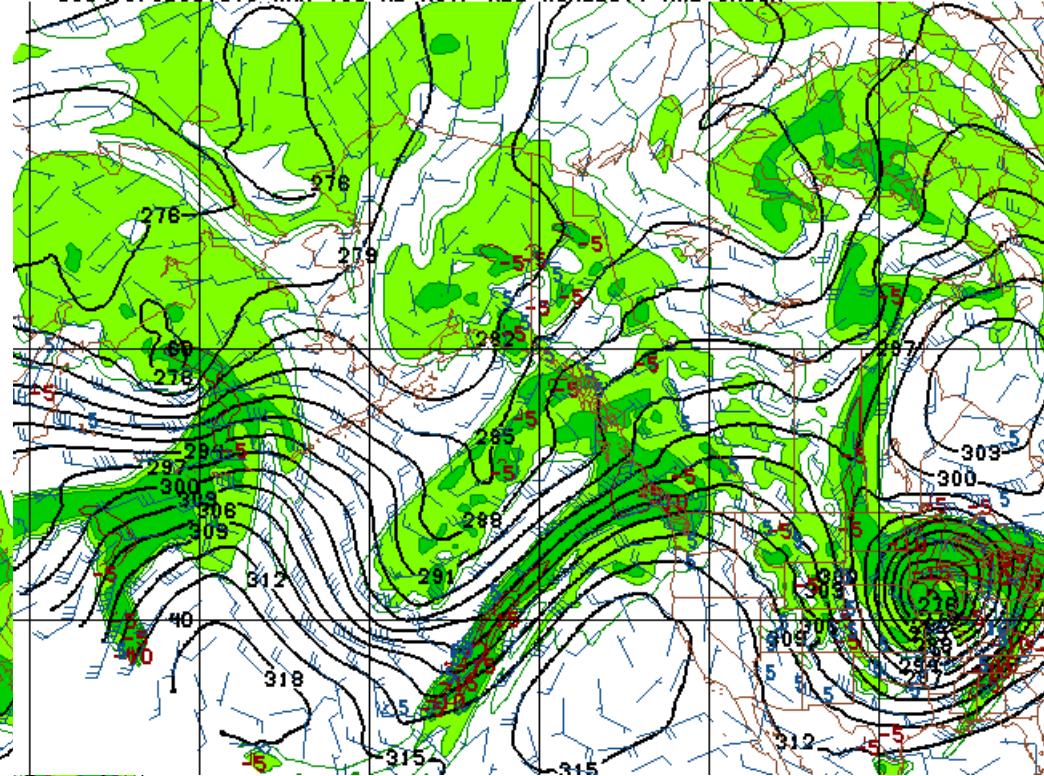
LATEST ANALYSIS 20080408 60000 UTC ACTUAL TIME 20080411 18



# Friday: GFS vs NAM

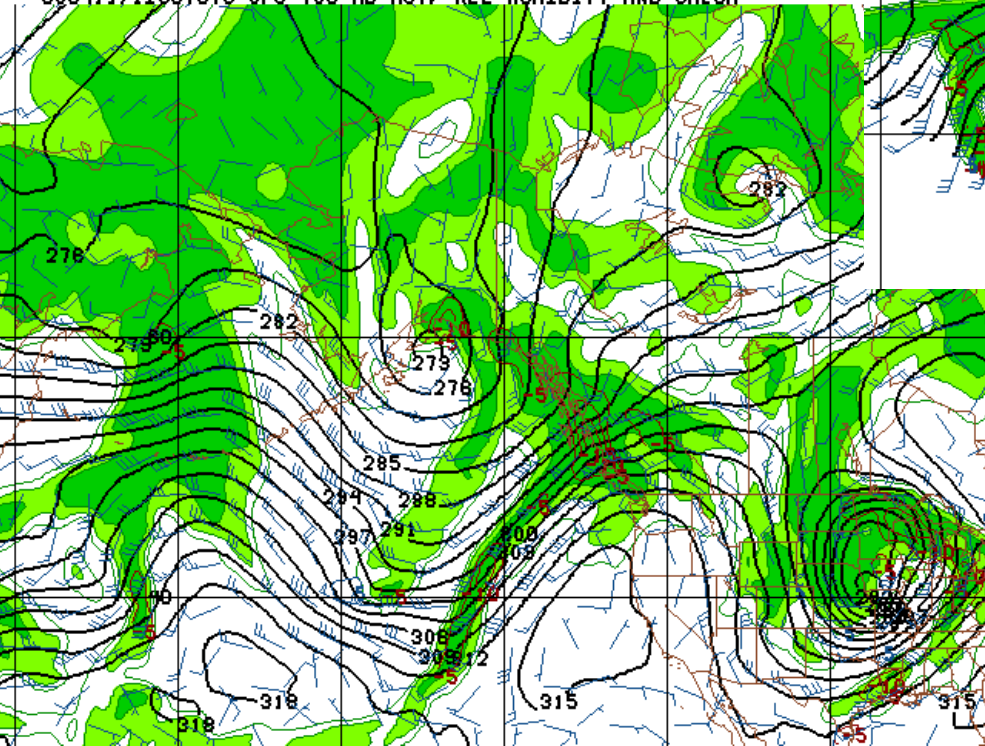
NAM

080411/1200Y078 NAM 700 MB HGT, REL HUMIDITY AND OMEGA



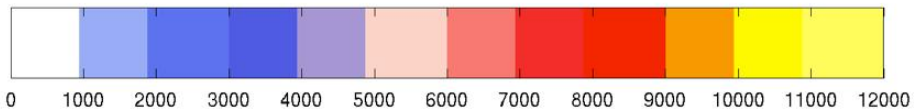
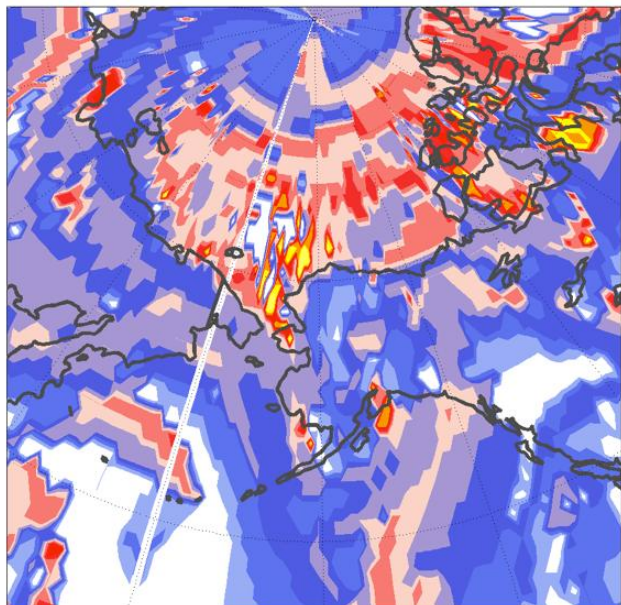
GFS

080411/1200Y078 GFS 700 MB HGT, REL HUMIDITY AND OMEGA



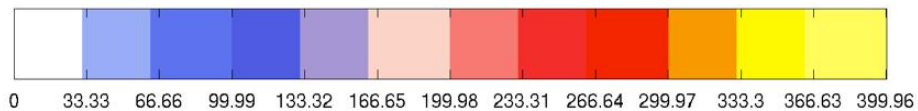
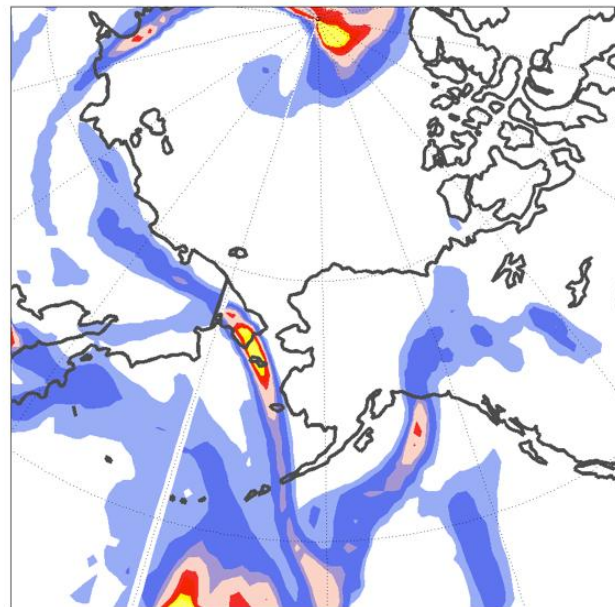
# BB black carbon on 18Z 11 Apr

BB-BC on 18 UTC 2008-04-11, altitude of tracer maximum



Alt of plume max

BB-BC on 18 UTC 2008-04-11 at level Total column



TOC black carbon

forecast from 06Z 20080407

# **RAQMS Fairbanks Local FX Discussion:**

**00Z 04/11/2008  
(84hr)**

**00Z 04/12/2008  
(108hr)**

**initialized 12Z 04/07/2008**

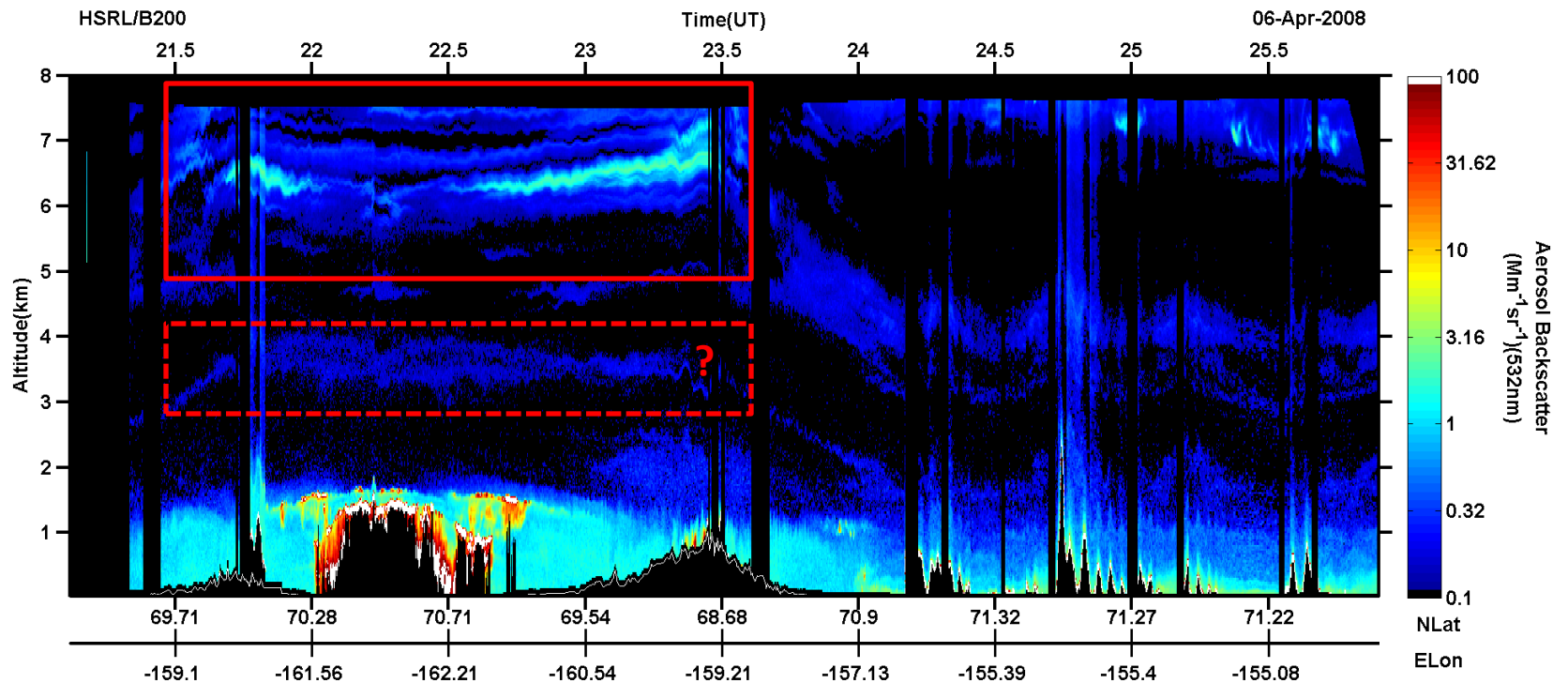
NASA Langley HSRL/B200 06-Apr-2008



# HSRL Aerosol Backscatter

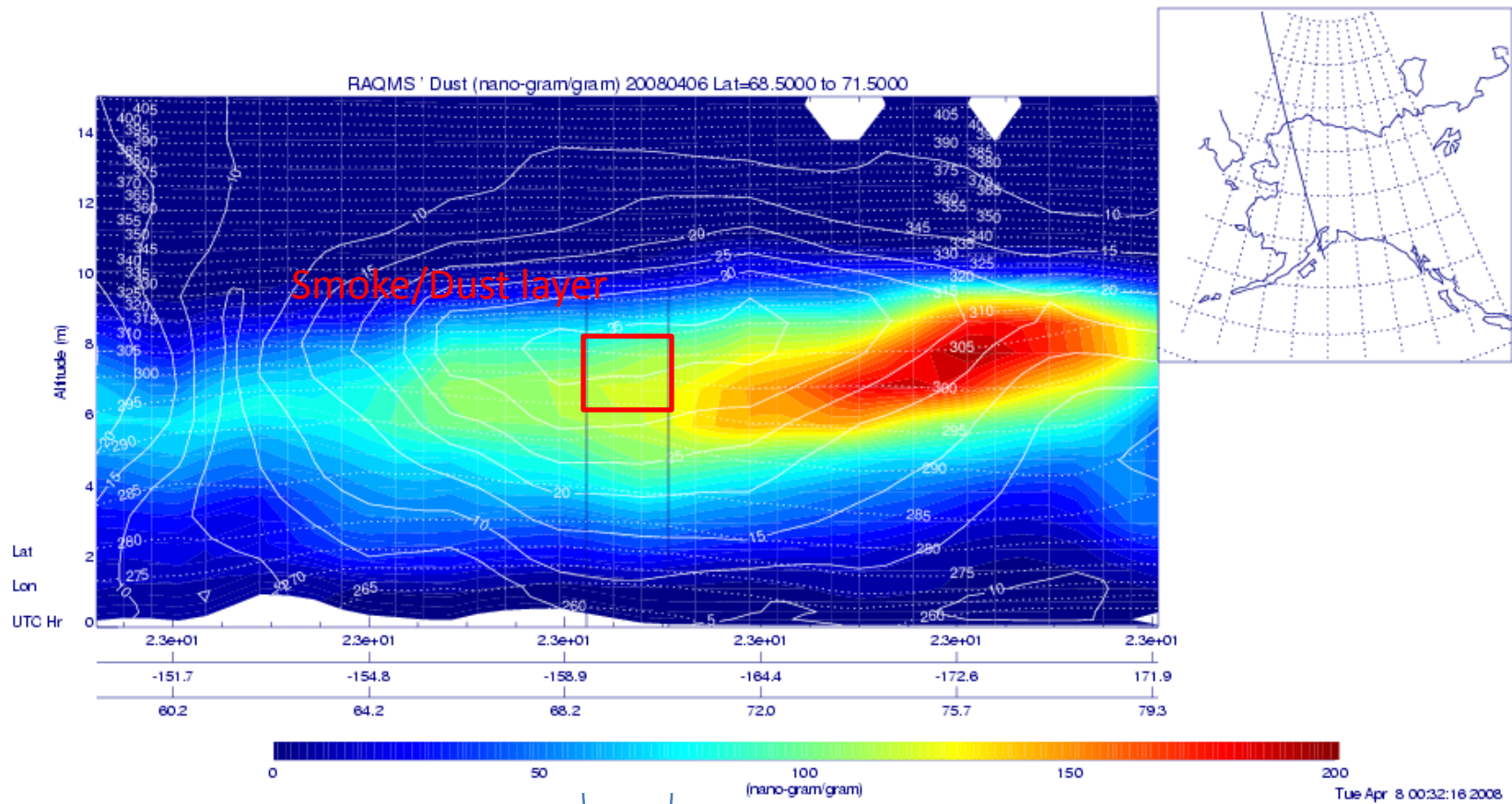
## 04/06/2008

Smoke/Dust layer



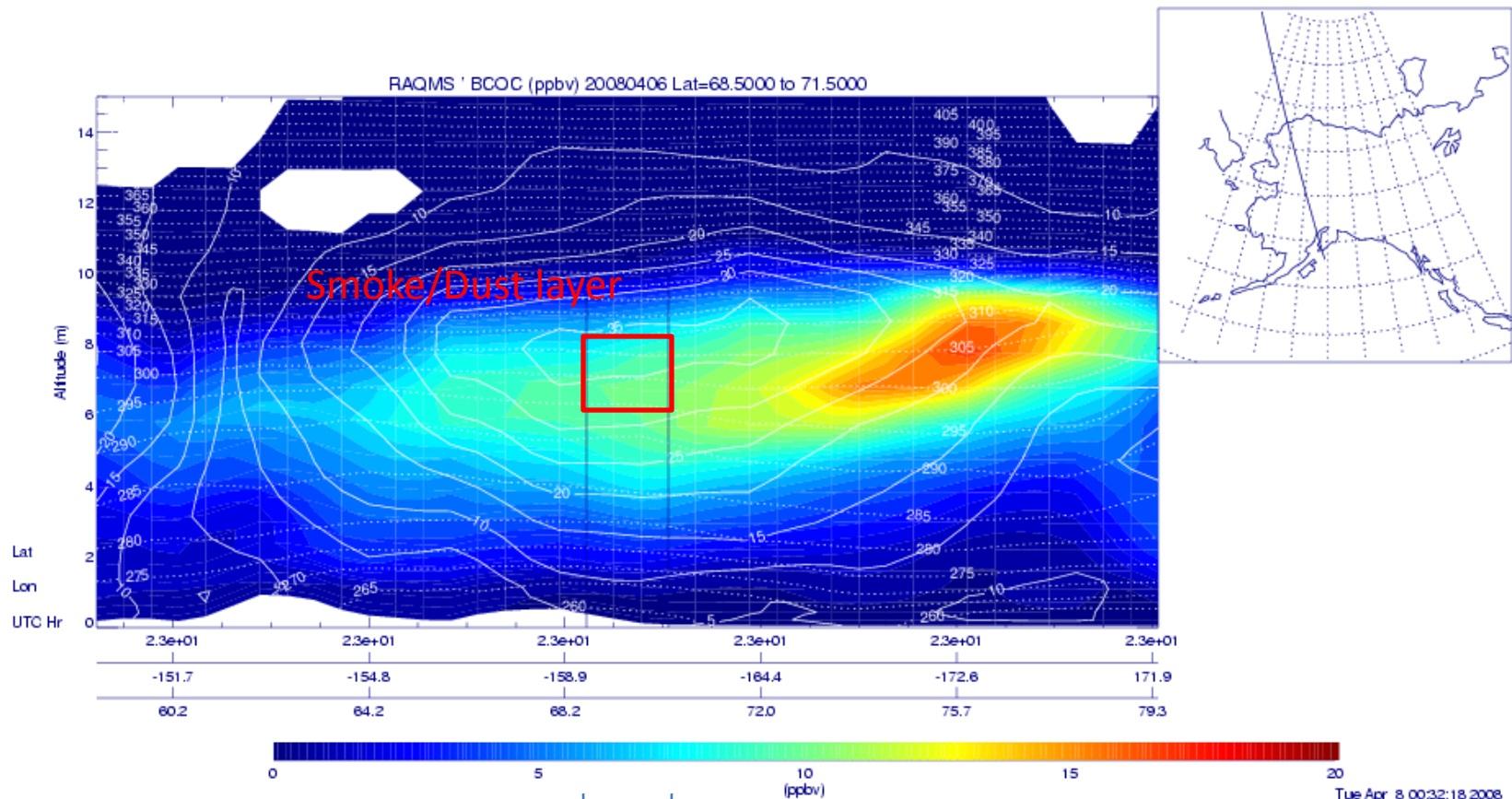
HSRL CALIPSO Leg

# RAQMS 12hr FX Dust along CALIPSO Track 04/06/2008



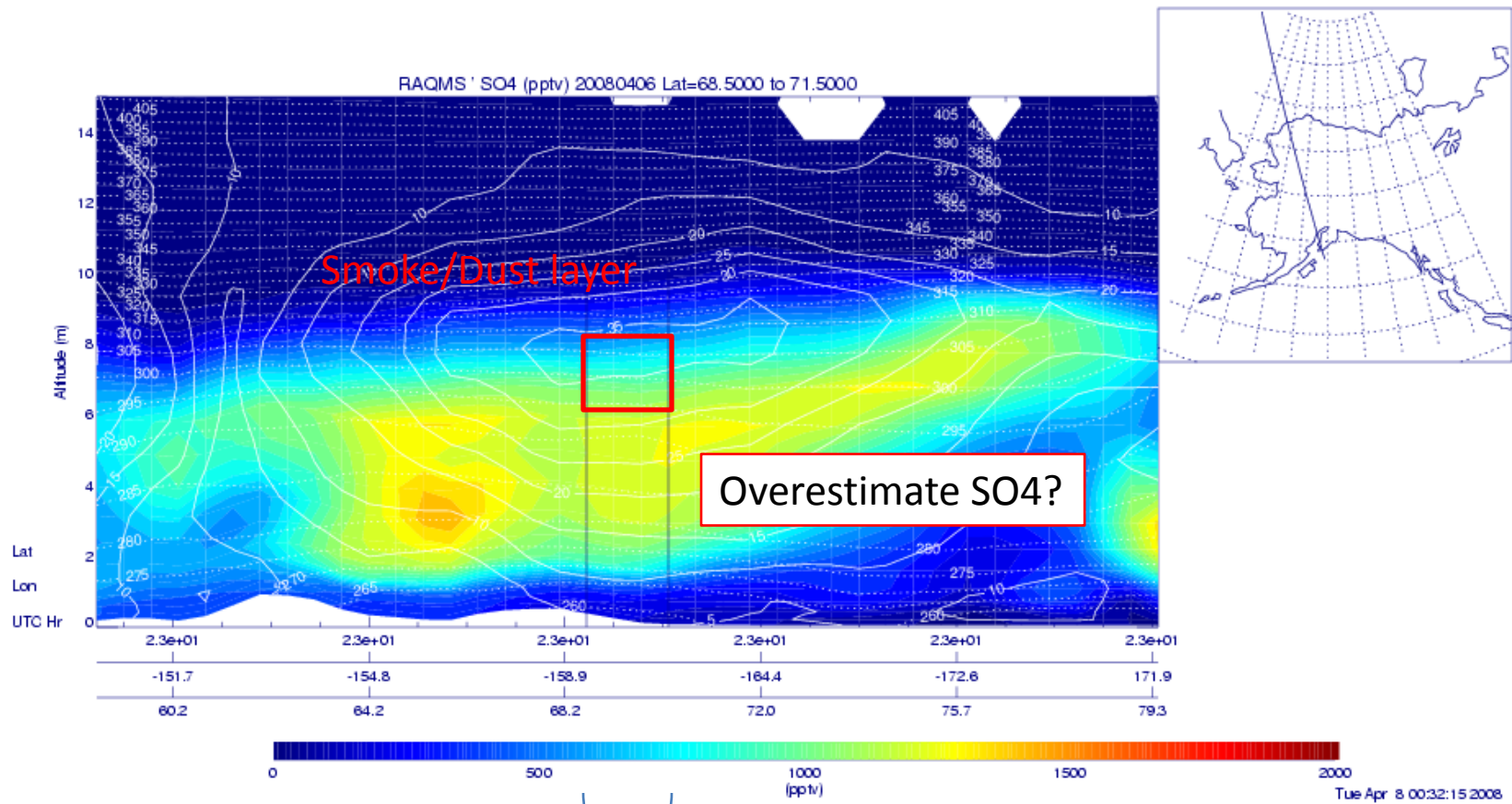
HSRL CALIPSO Leg

# RAQMS 122hr FX BCOC along CALIPSO Track 04/06/2008



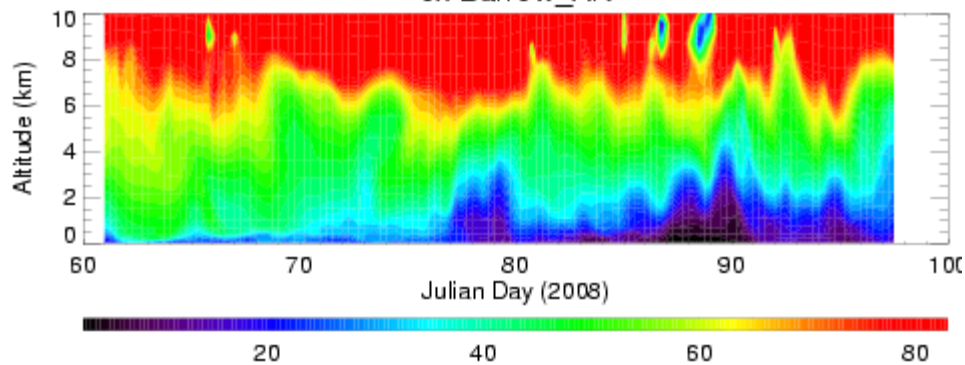
HSRL CALIPSO Leg

# RAQMS 12hr FX SO4 along CALIPSO Track 04/06/2008



HSRL CALIPSO Leg

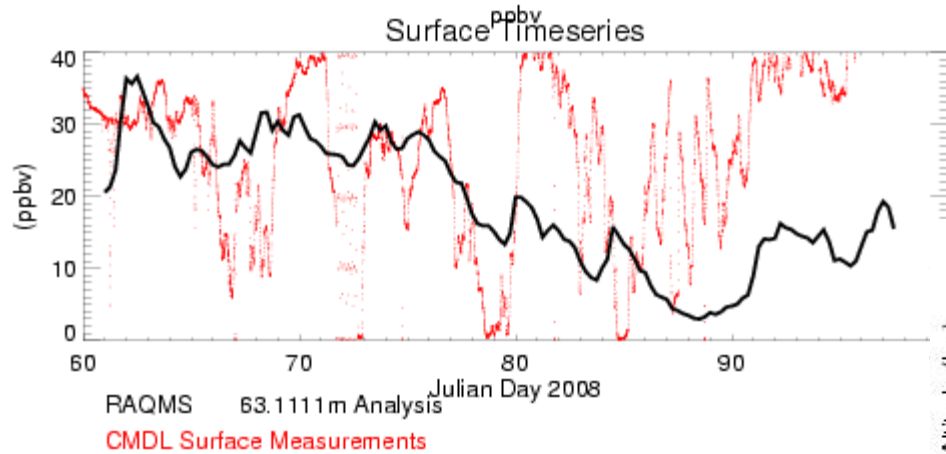
ox Barrow\_AK



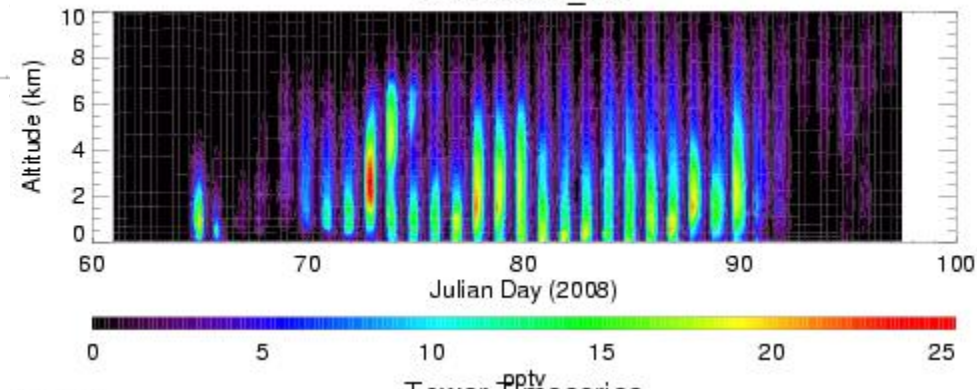
## RAQMS O<sub>3</sub> at Barrow

Depletion is too deep  
and therefore doesn't show  
Rapid recovery

Surface Timeseries

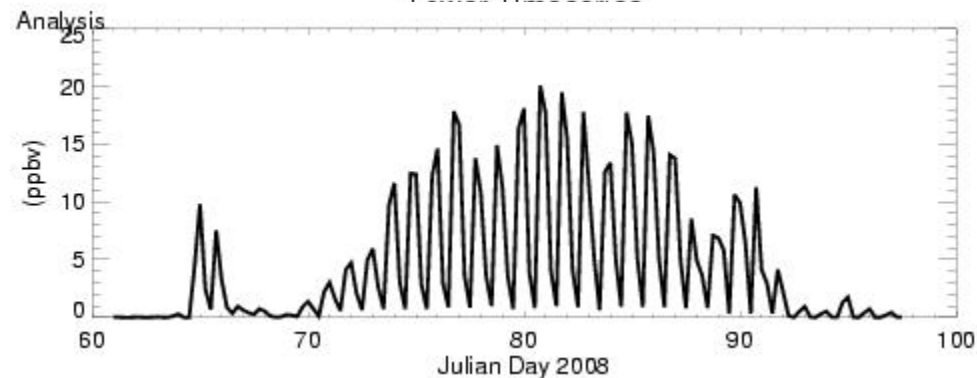


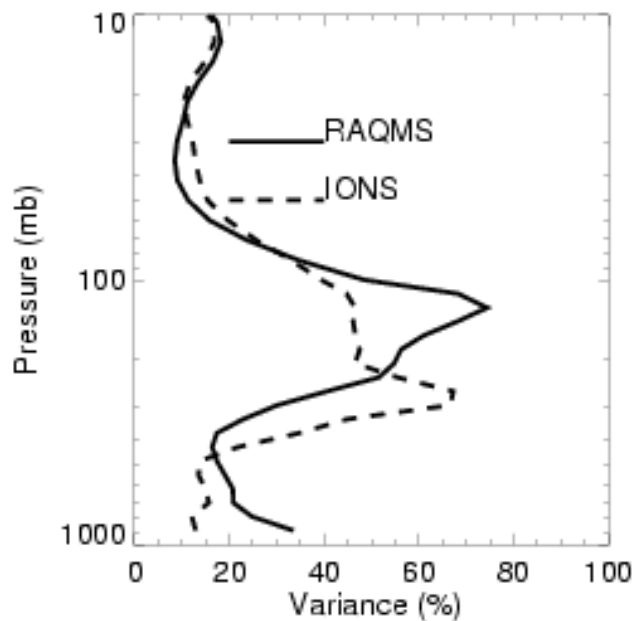
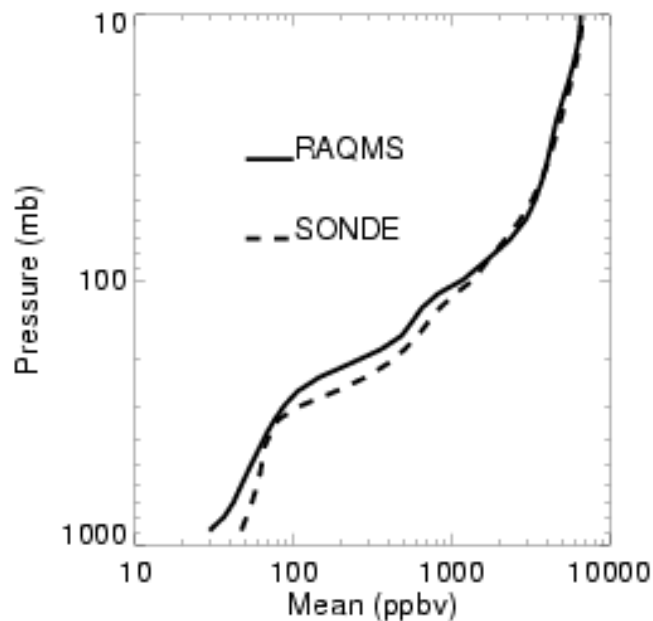
bro Barrow\_AK



## RAQMS BrO at Barrow

Generally consistent with  
Bill Simpson's BrO slant columns

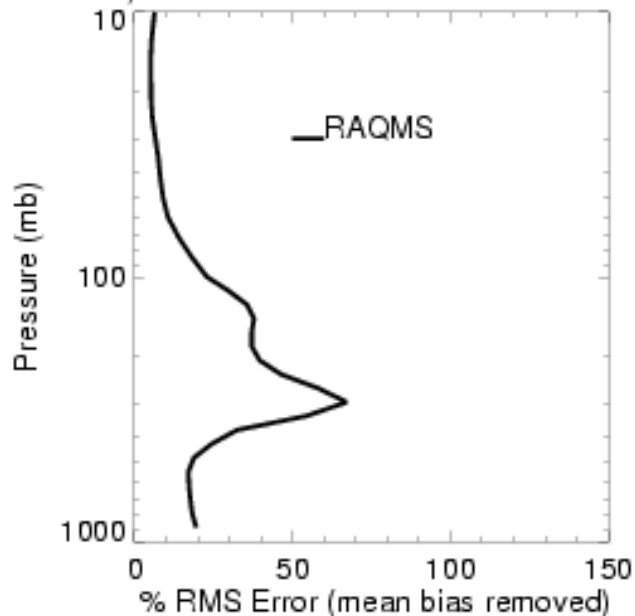
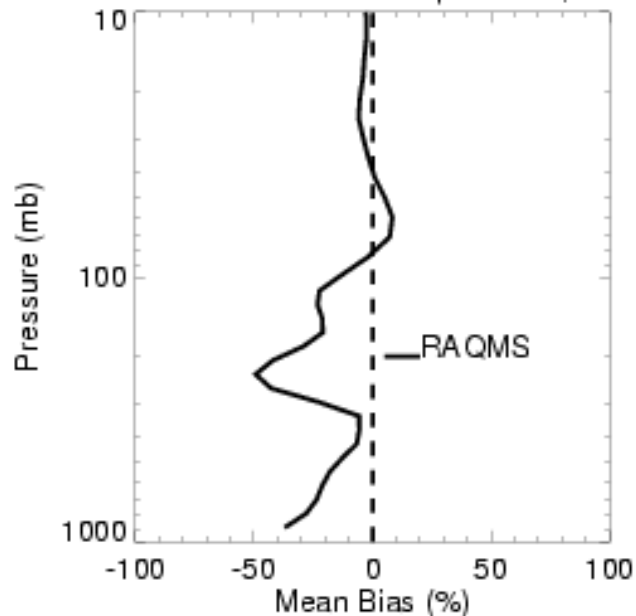




**Very good agreement  
Above 100mb due  
to MLS assimilation**

**(no bias in STE BC)**

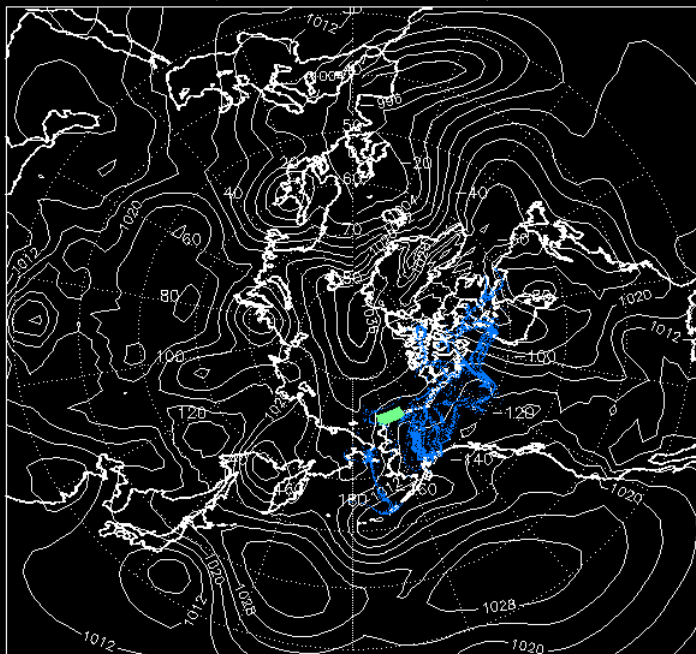
RAQMS<sub>6</sub>/Sonde O3 (ARCION, Thompson)  
April 01-06, 2008 (41 Sondes)



**Up to 50% low bias  
Lower stratosphere  
(200-100mb)**

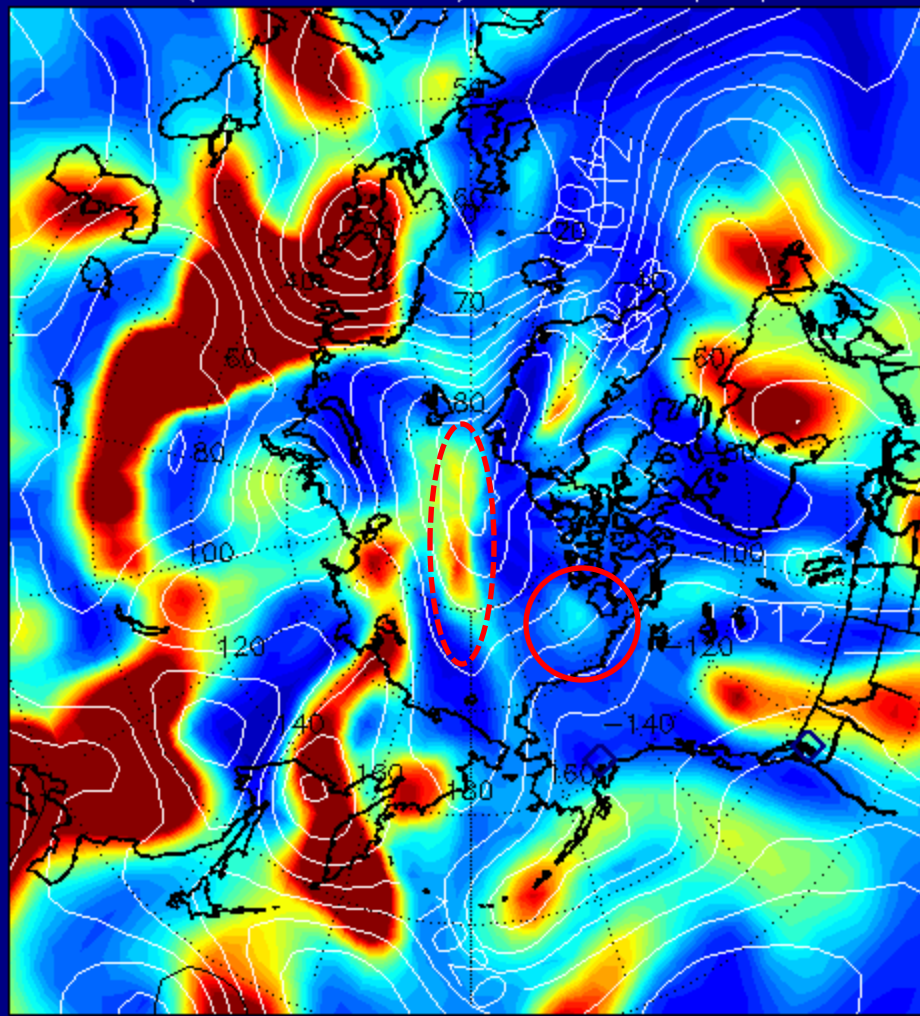
**40% bias within Arctic BL  
(Halogen loss is too  
deep/strong)**

2008040900 Initial (Blue) and Final (Green) Lat/Lon  
(Barrow Parcels below 5km)



AOD Total Aerosol 00Z 20080409

(MSL Pressure Contoured/95% Convective Precip=Red)



0.0 0.2 0.4 0.6 0.8 1.0

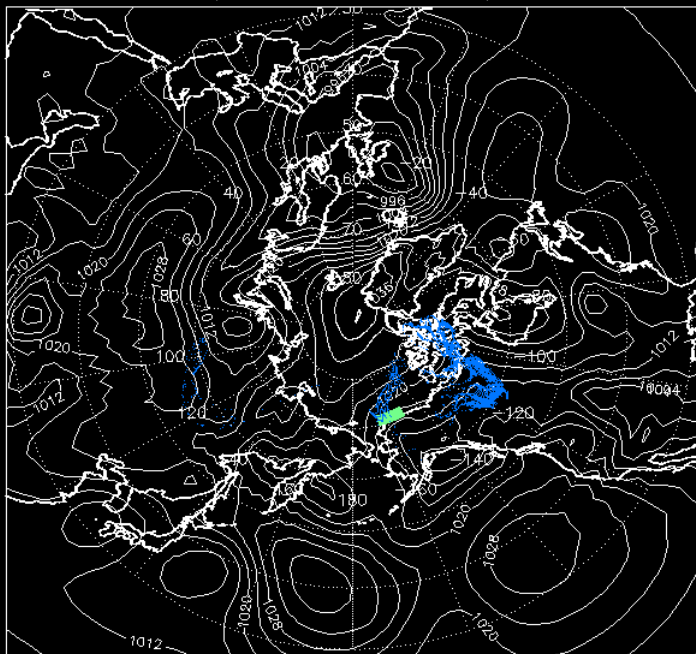
RAQMS<sub>G</sub> 24hr ASSIM + 36hr Fx Initialized 12Z 20080406

RAQMS Barrow Airmass Origin

Tuesday (04/08) afternoon

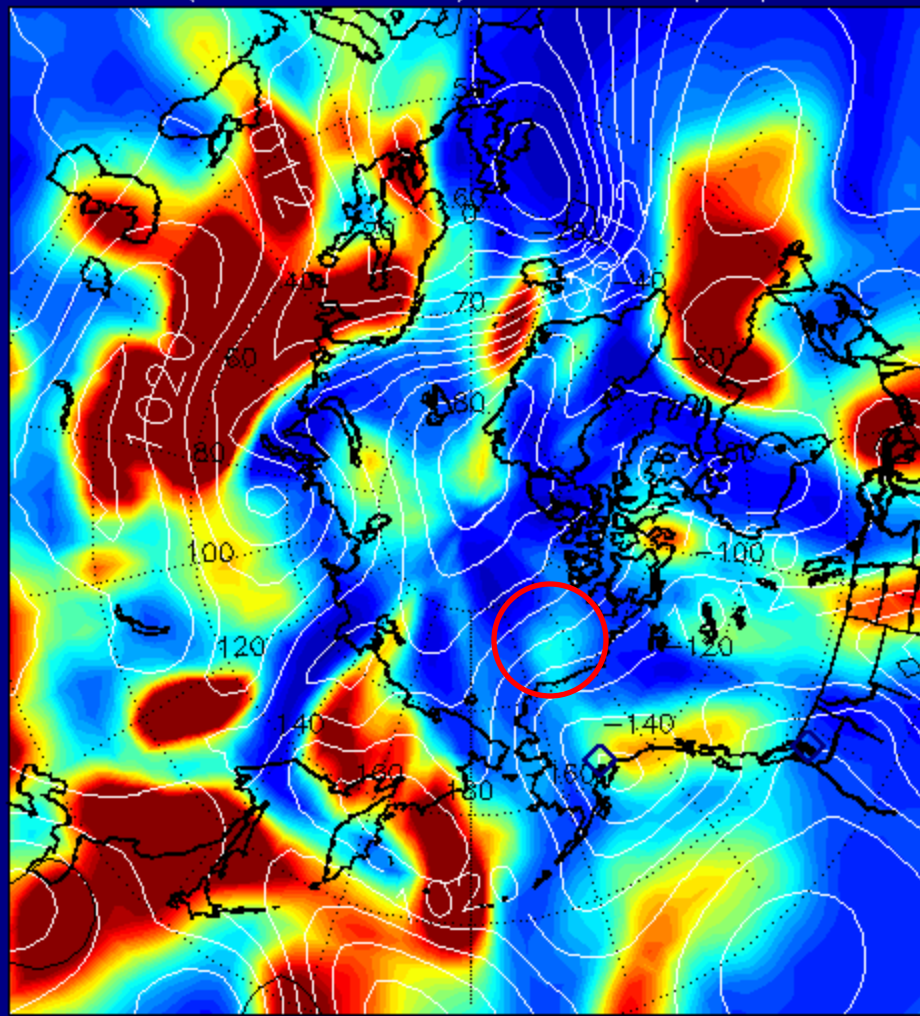
RAQMS 36hr AOD FX valid 00Z 04/09

2008041000 Initial (Blue) and Final (Green) Lat/Lon  
(Barrow Parcels below 5km)



AOD Total Aerosol 00Z 20080410

(MSL Pressure Contoured/95% Convective Precip=Red)



0.0 0.2 0.4 0.6 0.8 1.0

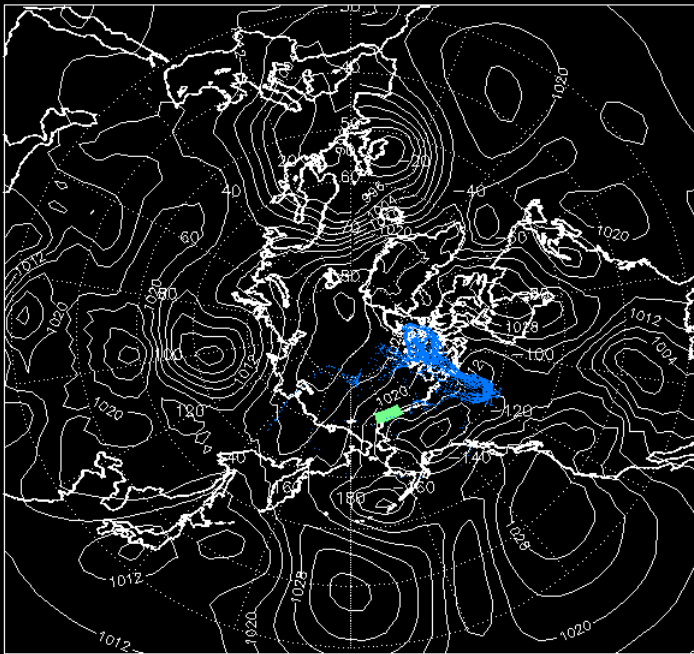
RAQMS<sub>6</sub> 24hr ASSIM + 60hr Fx Initialized 12Z 20080406

RAQMS Barrow Airmass Origin

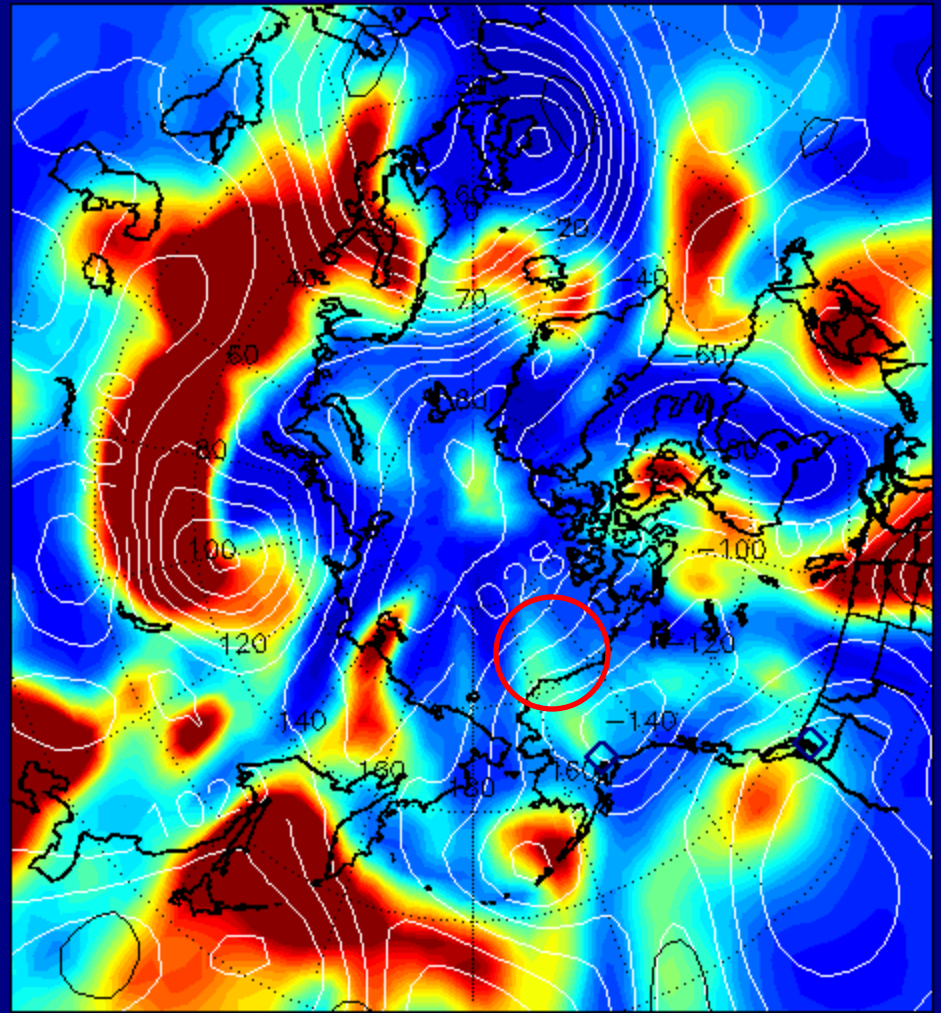
Wednesday (04/09) afternoon

RAQMS 60hr AOD FX valid 00Z 04/10

2008041100 Initial (Blue) and Final (Green) Lat/Lon  
(Barrow Parcels below 5km)



AOD Total Aerosol 00Z 20080411  
(MSL Pressure Contoured/95% Convective Precip=Red)



0.0 0.2 0.4 0.6 0.8 1.0

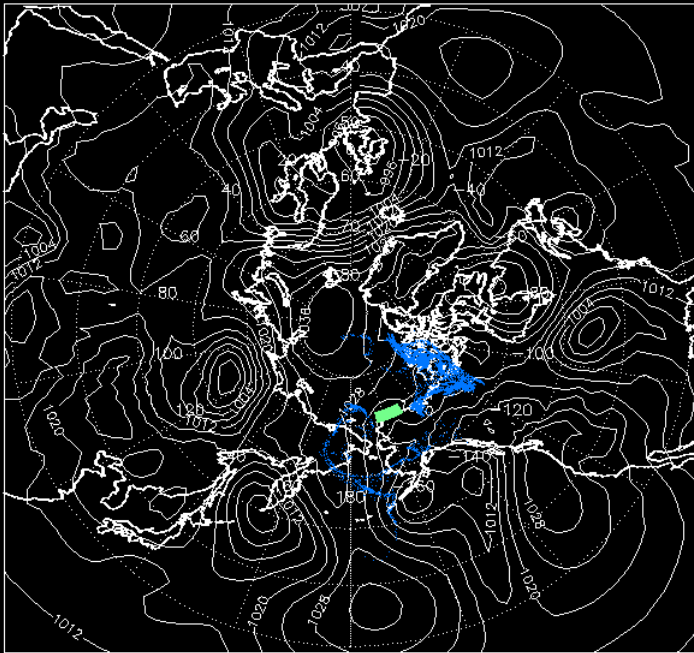
RAQMS<sub>G</sub> 24hr ASSIM + 84hr Fx Initialized 12Z 20080406

RAQMS Barrow Airmass Origin

Thursday (04/10) afternoon

RAQMS 84hr AOD FX valid 00Z 04/11

2008041200 Initial (Blue) and Final (Green) Lat/Lon  
(Barrow Parcels below 5km)

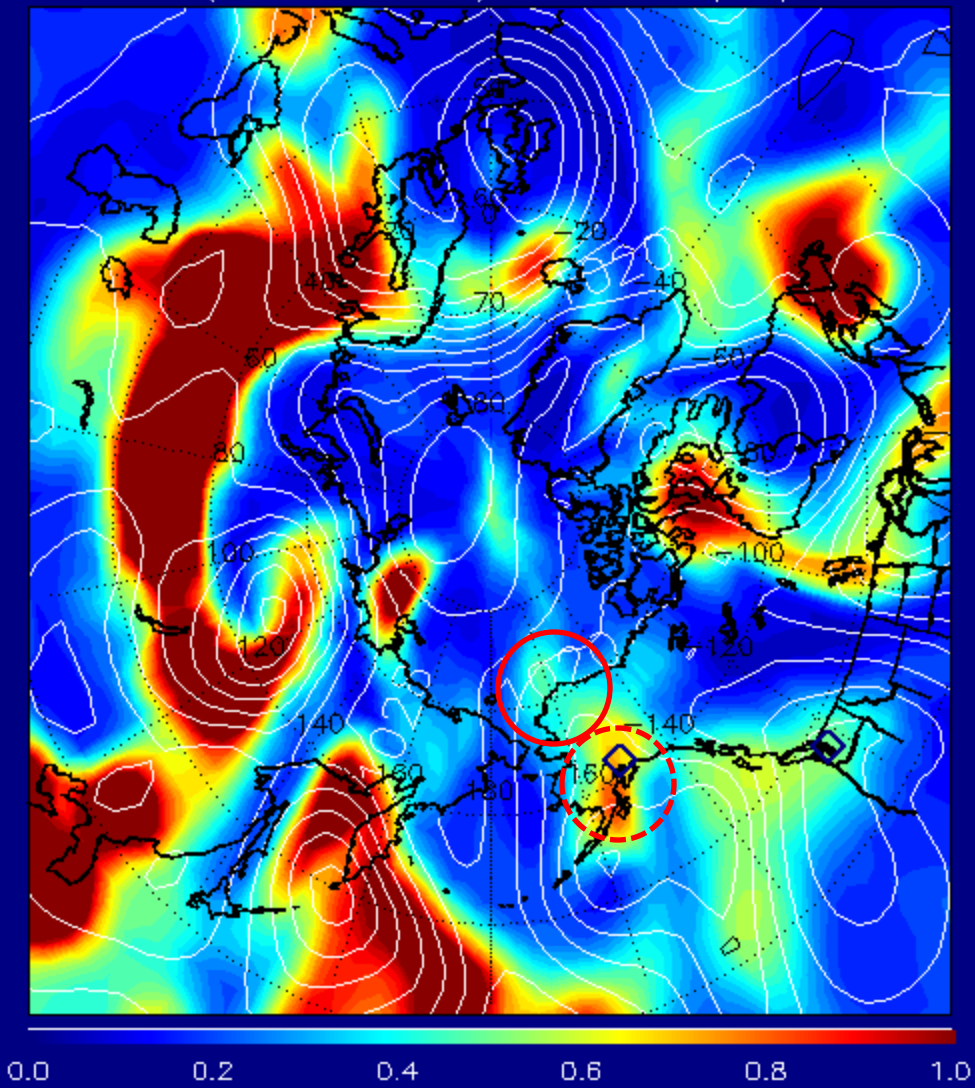


RAQMS Barrow Airmass Origin

Friday (04/11) afternoon

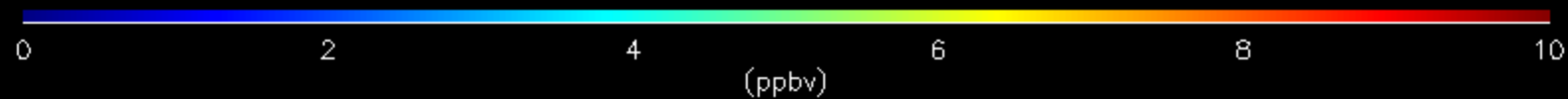
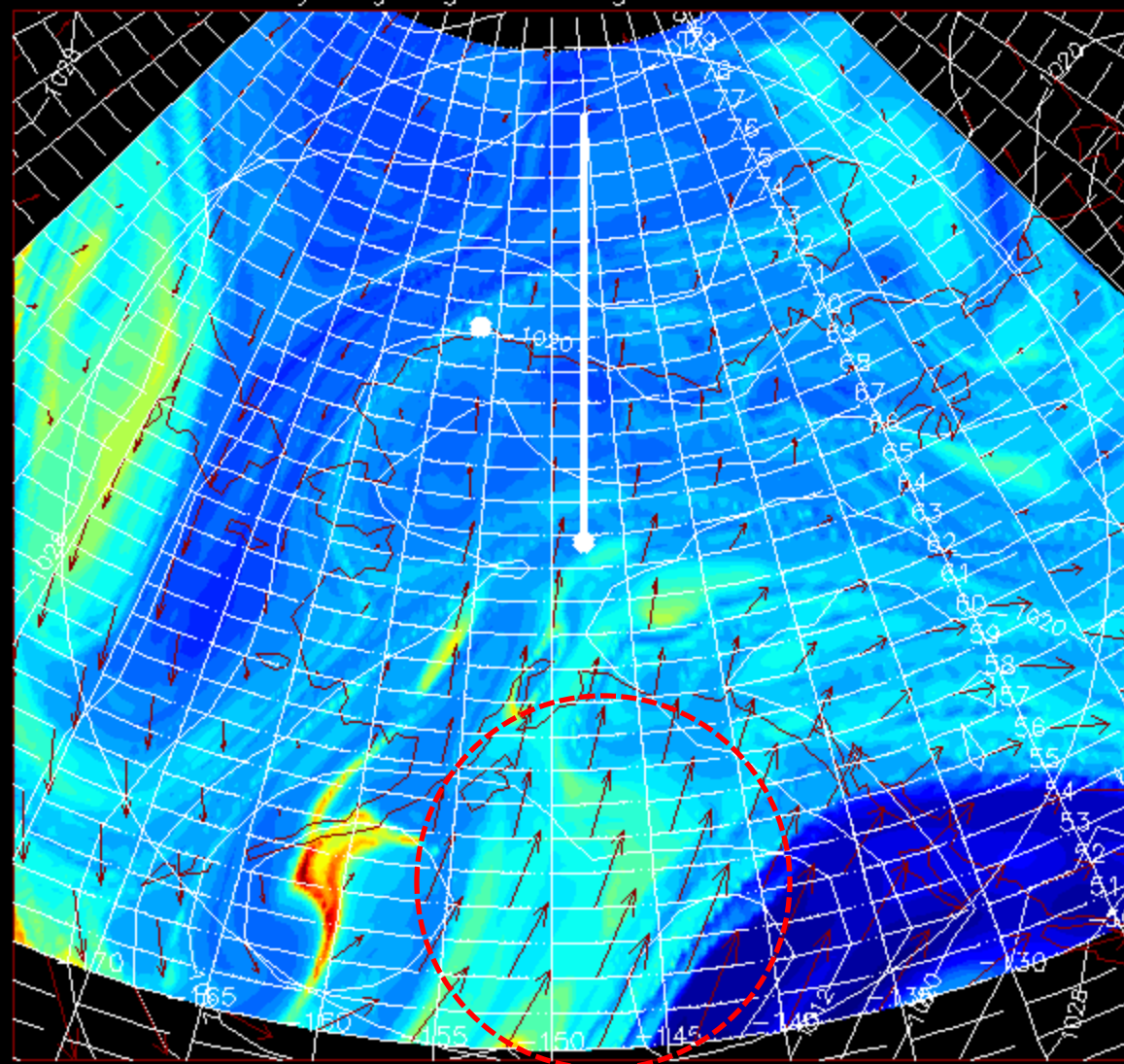
RAQMS 108hr AOD FX valid 00Z 04/12

AOD Total Aerosol 00Z 20080412  
(MSL Pressure Contoured/95% Convective Precip=Red)

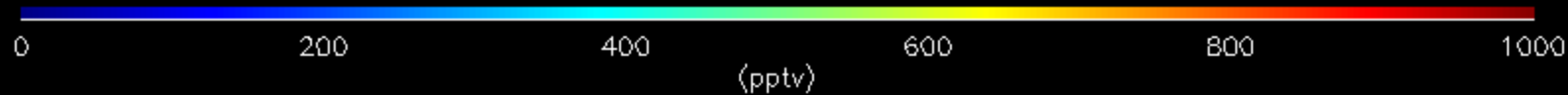
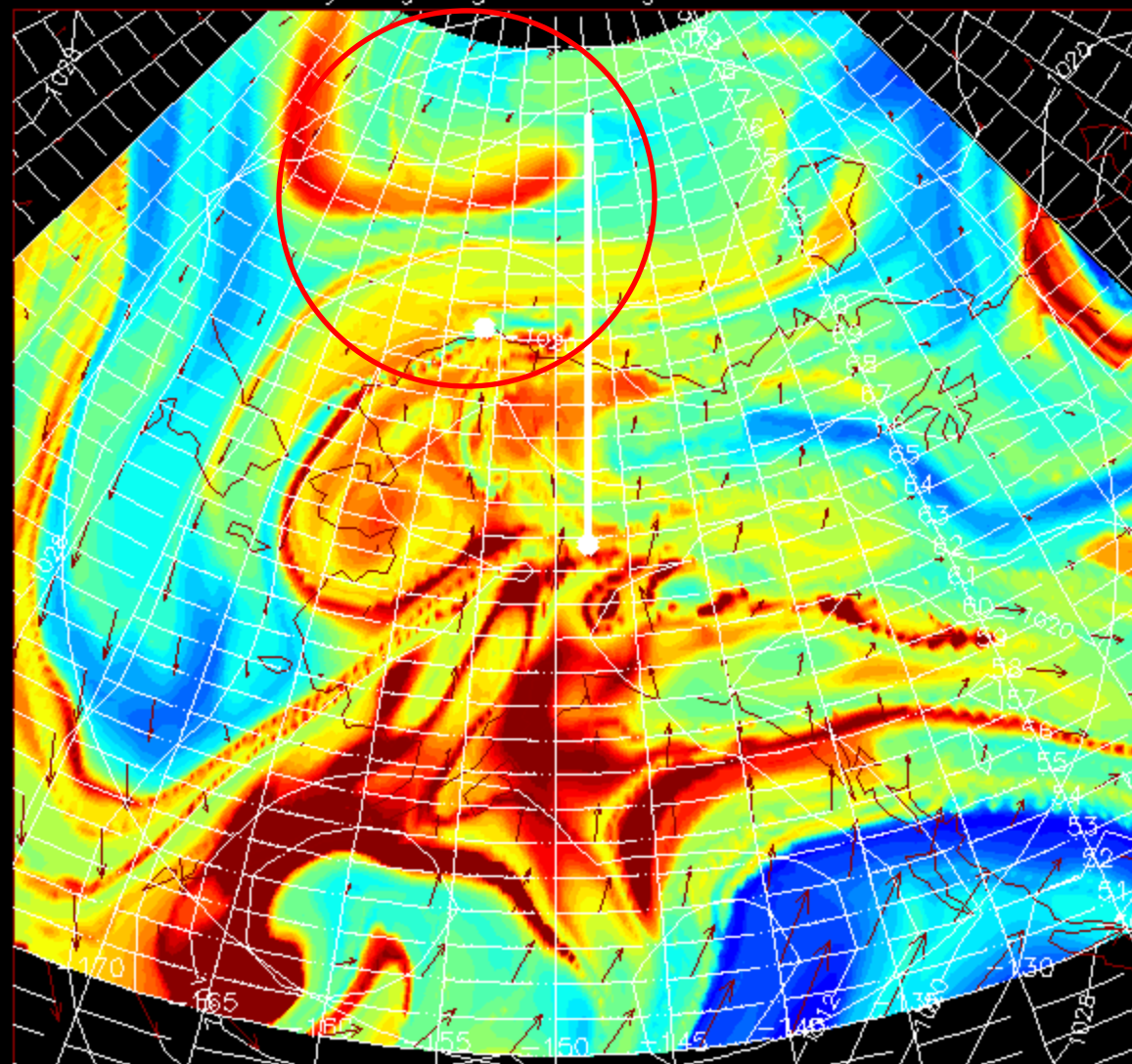


RAQMS<sub>G</sub> 24hr ASSIM + 108hr Fx Initialized 12Z 20080406

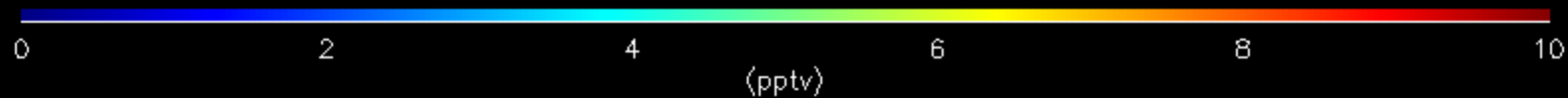
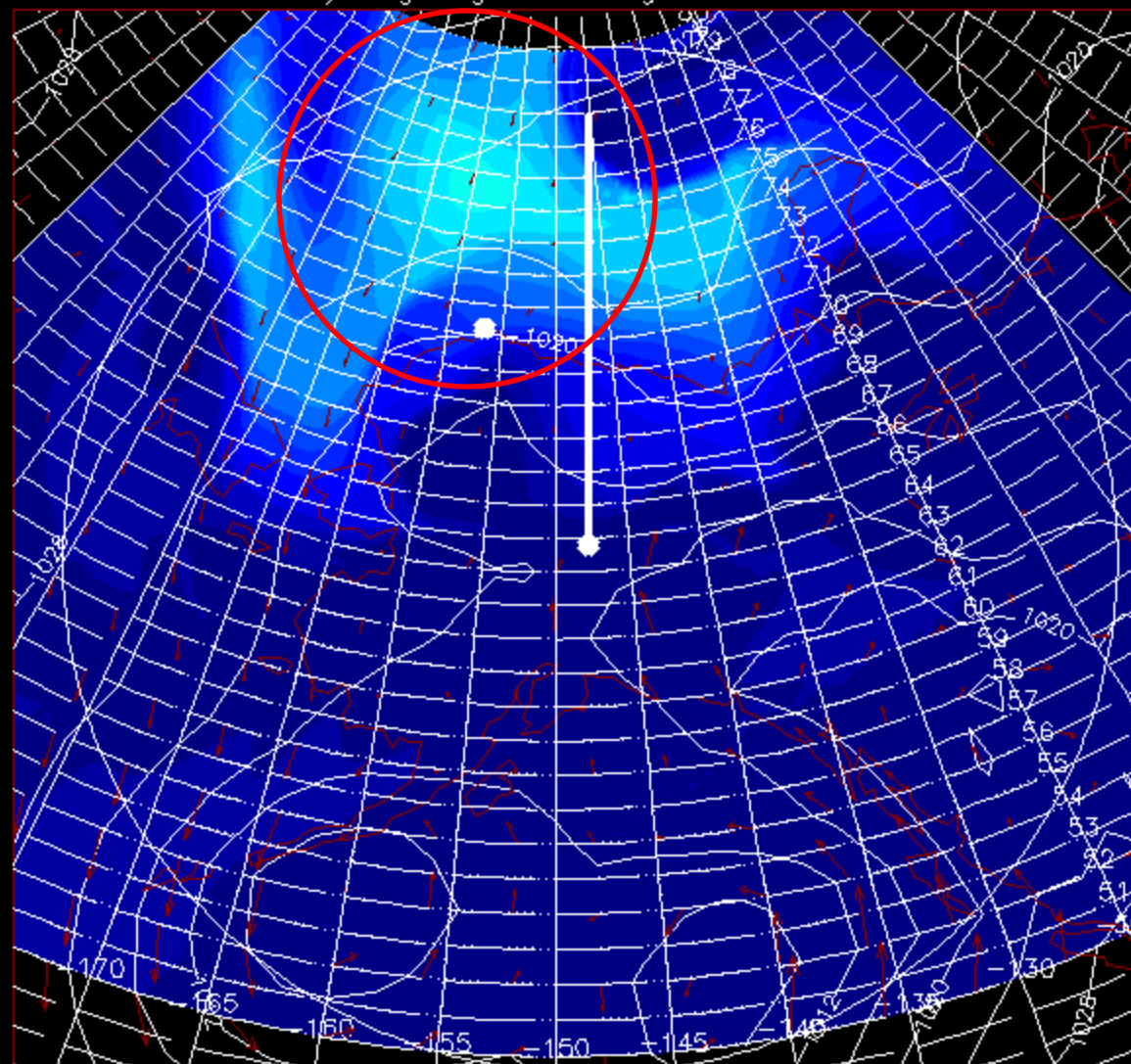
5km 5-day Lagrangian Averaged BC+OC 2008041200



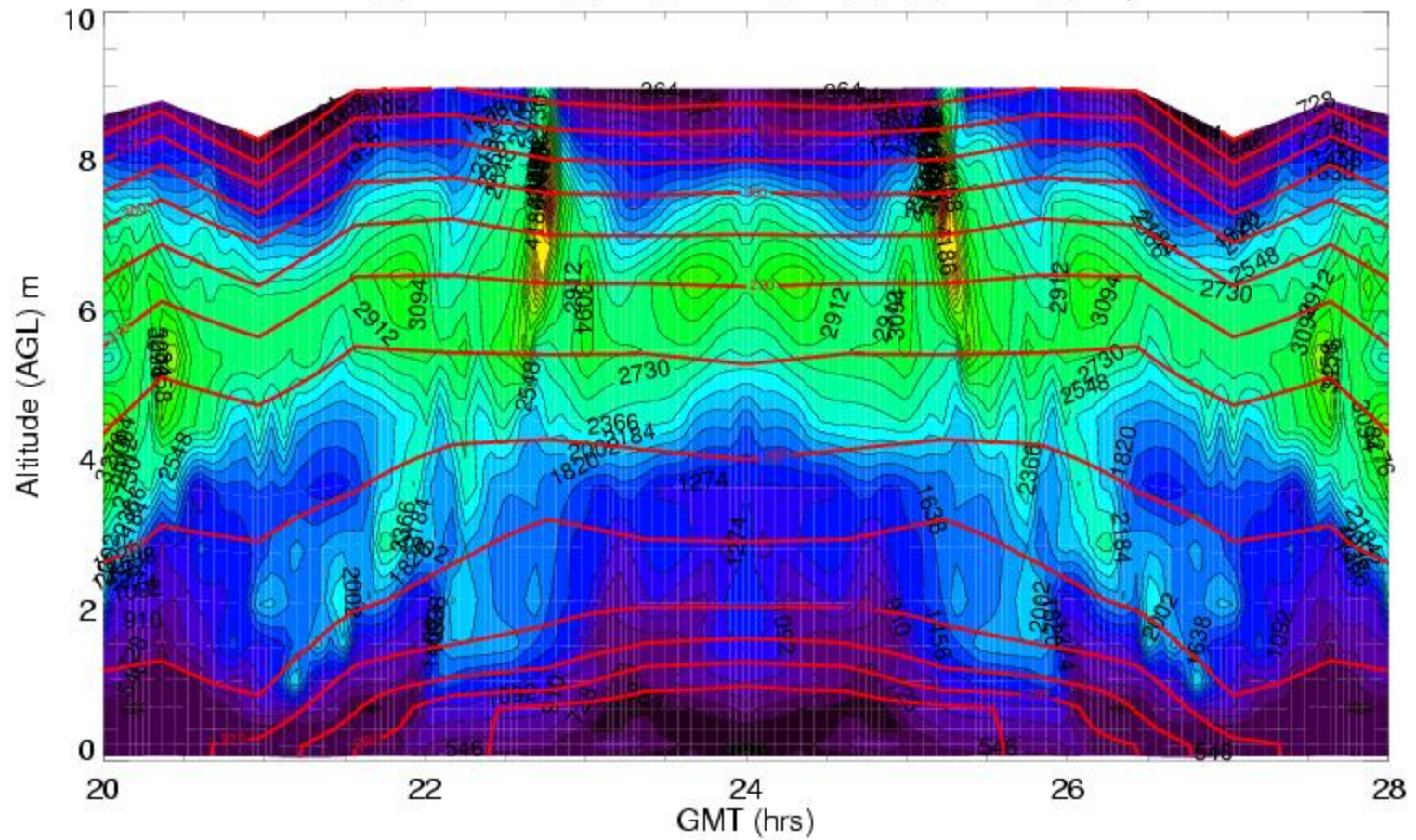
3km 5-day Lagrangian Averaged S04 2008041200



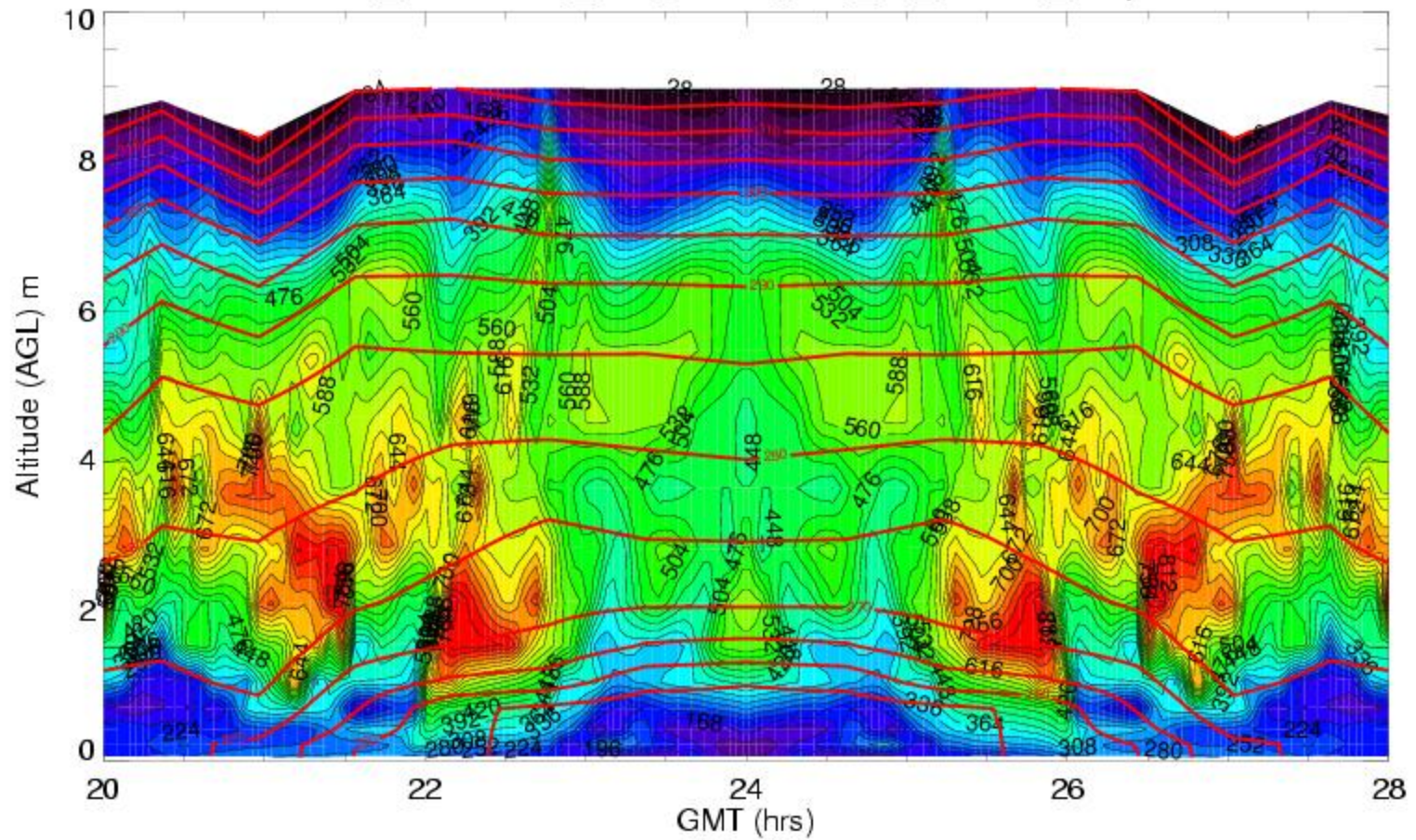
SFC 5-day Lagrangian Averaged BrO 2008041200



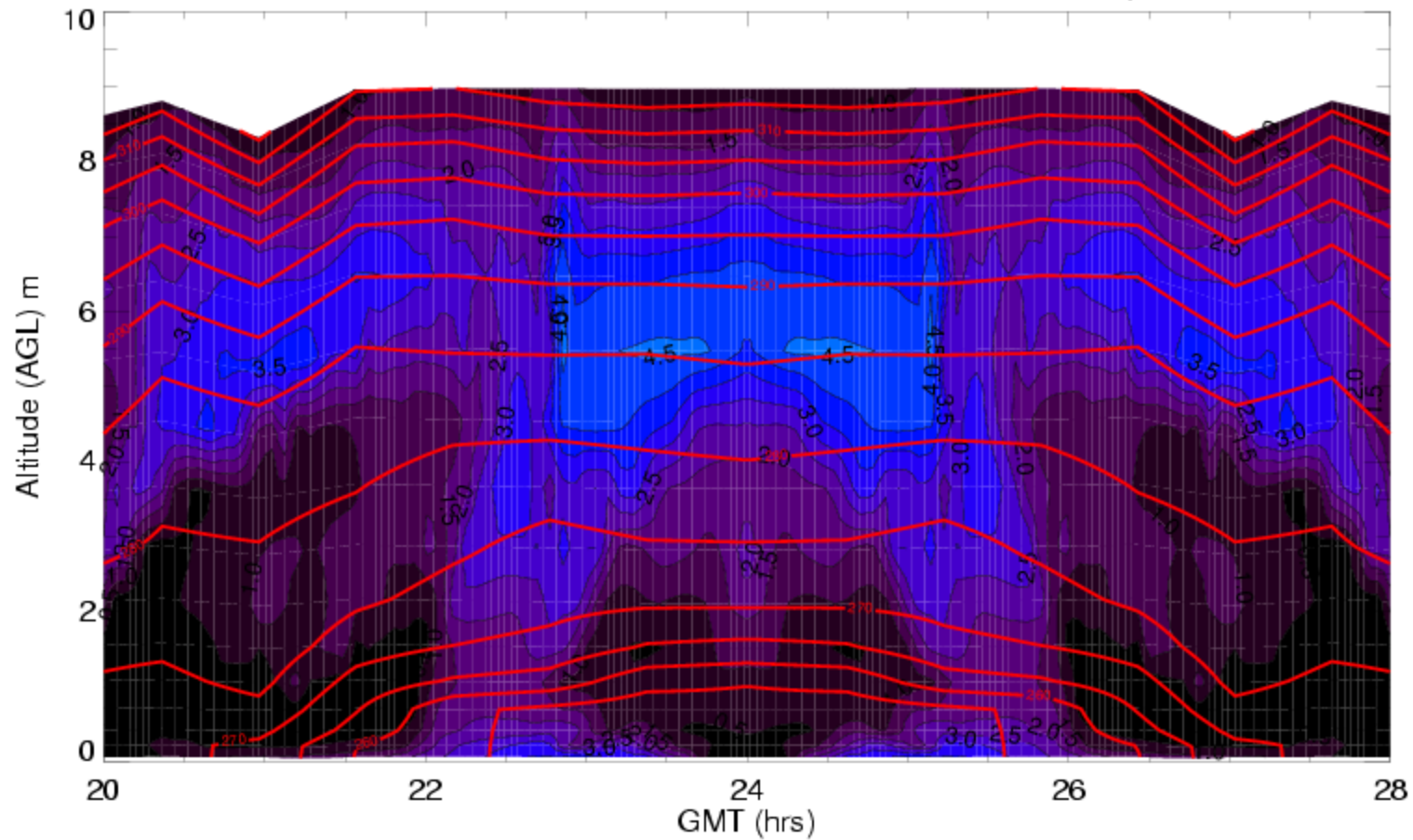
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RAQMS\_20080412\_00Z\_108hr\_fcst\_rdf\_curtain\_arcpac.dat



108hr FX iso4 CI= 28.0000 max= 862.261  
RAQMS\_20080412\_00Z\_108hr\_fcst\_rdf\_curtain\_arcpac.dat



108hr FX ibro CI= 0.500000 max= 4.68774  
RAQMS\_20080412\_00Z\_108hr\_fcst\_rdf\_curtain\_arcpac.dat



RAQMS\_20080412\_00Z\_108hr\_fcst\_rdf\_curtain\_arcpac.dat

